# merican The Independent Voice of American Aeronautics Vol. 3, No. 21 Published Twice a Month

# Fortnightly Review

#### Double Benefit

F THE proponents of airline expansion in the United States are lacking in arguments, they need look no further than the national defense as the best of all possible reasons for expanding the air transport services of the nation at this time.

It is rather surprising that the benefits to the national defense have hardly been mentioned in connection with airline expansion. Actually it is the most immediate logical reason for establishing new services in new areas.

It has remained for the Post Office Department alone of all agencies to point out the advantages and benefits which accrue to the national defense from the operation of airlines, although one exception must be made for Braniff Airways which presented a sound argument to the CAA at a recent hearing to justify a reasonable rate of mail Braniff Airways considered that the mere fact of its operating was of more than passing value to the military services and in this argument the airline was on perfectly sound ground.

At the present moment the Treasury of the United States is paying out rather considerable sums of public money for pilot trainingivilian, military and naval. This is is it should be, but pilot training alone is only one small phase of national defense. A good pilot must continue to fly or he is of little use in an emergency. And if he flies in the Army or the Navy mere to keep in shape for those services the taxpayer is only getting part return on his money.

It would seem to be mere logic that the taxpayer would get full value for his investment in pilot

(Turn to page 20)

# \$3,138,582 Airline Profit in 1939; Passengers up 48%

#### McCARRAN REVISES U. S. AIRPORT BILL

Introduces New Measure in Senate Authorizing Federal Participation Up to 80%

Pat McCarran, Democrat, introduced in the Senate March 19 the final revised draft of his bill authorizing Federal participation in a permanent airport construction and improvement program. It is not an appropriation measure, but would make it possible for "Federal cooperation with the states in the development airports adequate to the national defense, the postal service, and civil aeronautics."

The measure would be designated as the "Aircraft Landing Area Development Act."

Main provisions of the bill are: \$125,000,000 would be authorized to be appropriated to the Civil Aeronautics Authority. Of this fund not over 5% is designated for administrative expenses, the balance to be apportioned by CAA to the states, territories and possessions. Not less than 1% and not more than 2% would be earmarked for territories and possessions, the rest of the fund allocated (Turn to page 12, col. 4)

Arranged Merger



Floyd B. Odlum President of Atlas Corporation, who becomes a dominant figure in avia-tion as a result of the merger with Curtiss-Wright Corp. (story page 30)

#### Mail Pay is Only 33% of Total Revenue; Two Lines Show '39 Losses

DOMESTIC air transport companies showed a total net income for 1939 after deductions for income taxes of \$3,138,582, according to a compila-tion by AMERICAN AVIATION based upon monthly reports filed with the Civil Aeronautics Authority. Only two airlines showed 1939 calen-

dar year deficits in contrast to seven lines reporting deficits for the fiscal year which ended last June 30, 1939. The three million profit for the calendar year is in sharp contrast to the total industry profit of \$593,400 for the fiscal year ending last June 30, thus demonstrating the remarkable increase in passenger business during the last

American Airlines and Eastern Air Lines were alone responsible for 75% of the total industry profits for the year. American transported more than 31% of the year's 1,703,386 revenue passengers and earned \$1,467,751, thereby becoming the first of the existing airline companies to net more than a million dollar profit.

Eastern Air Lines reported a net income of \$883,824, second largest profit, while United Air Lines, loser of \$997,-221 in 1938, flew into the black with a \$308,368 profit in 1939. Eastern and Continental Air Lines were the only two companies to operate in the black every month.

The two companies showing a 1939 deficit were Transcontinental & Western Air, which contrasted a 1938 loss of \$773,263 with a 1939 loss of \$187,726 and Boston-Maine Airways which reported a \$5,798 loss.

A greater percentage of total industry revenues came from passengers during 1939 than in the fiscal year which ended last June 30. Of the \$54,590,280 total revenues, \$34,340,240 or operating almost 63% was derived from passengers, while mail pay accounted for less than 33% and express-freight 4%. In the fiscal year the ratio was 60% for passengers, 35% for mail and 5% for express-freight.

On one extreme Inland Air Lines received more than 77% of its revenue from mail transportation. On the other, Eastern derived 73% of its revenue from passenger traffic. Passenger (Turn to page 29, col. 1)

## CAA Offers Refresher Courses to 600 Commercial Pilots as Re-Rating Aid

extension important civilian pilot training program designed to provide many more certified instructors with the government paying the cost of additional schooling, has been announced by the Civil Aeronautics Authority. Arrangements have been Authority. Arrangements have been made for 600 commercial pilots to take primary refresher instructor courses to qualify them for flight instructors'

The courses are available to pilots interested in securing flight instructor's ratings as well as those now holding such certificates but not as yet re-rated under the CAA's standardization pro-

Out of approximately 4,000 instructors now registered with the CAA, 1,043 have already met the stiffer requirements and have been re-rated. Most of these are engaged in the pilot training program for which re-rating was a requirement. The remainder must

be examined by October 1 of this year or they will not be permitted to engage in flying instruction after that

The refresher courses are designed to aid those who have been in aviation for many years but who may find it to be a hardship to take the re-rating examination without instruction em-bracing the new requirements. The courses will provide from seven to ten hours of instruction, with applicants paying their own transportation to the school and their own subsistence while taking the course

The CAA will pay the school \$100 tuition for each applicant taking the course. Applications are now being re-ceived by the CAA and courses will begin as soon as the first applicants are chosen. Application blanks and further information can be secured from the Authority's private flying development (Turn to page 6, col. 1)

# WE WILL BUY 16,000 PLANES WITHIN TWO YEARS

WE WILL also be in the market for 21,600,000 gallons of gasoline, 17,000 engines, 2,800,000 feet of control cable, 64,800 tires, 20,000 radio sets, and 128,000 instruments.

We shall furthermore require proportionate quantities of engine parts, accessories, propellers, wrist-watches, paints, and all other products related to aviation.

That's a pretty big order, we'll admit. But we have the money to pay for it. We are the richest and fastest-growing aviation customer in the world. We are the American public!

There can be little doubt regarding our capacity to buy. No less an authority than Robert H. Hinckley, Chairman of the Civil Aeronautics Authority, has recently stated: "Today there are 13,200 [certificated planes]. By the end of 1942 there will be at least 25,000 such planes, and the number may well approach or exceed 30,000."

So what do you have, Mr. Manufacturer, to sell us? We want full particulars! Frankly, we prefer to deal with a manufacturer who is *known*. That is why we are eager to read your advertising. In fact, that is why we *depend* upon your advertising. By it, we judge your reputation as well as your product.

But don't take too much for granted about our good nature. You will get along better with us if you remember our *human* nature.

Every month-every week-we see dozens of

magazines and thousands of advertisements—all fighting for our attention. But we see so much that we have time to *read* only the very best. You'd be surprised how fast we can skip the average ad, regardless of how many hundreds or thousands of dollars it cost some unfortunate advertiser!

What are you doing to prevent us from skipping your advertisements? What steps are you taking to make them stand out against all competition for our attention? What are you doing to make your advertising pages so stimulating to our imagination and so persuasive to our judgment, that we just have to read them?

Good aviation advertising calls for two qualities—a knowledge of aviation and a knowledge of advertising! For that you need an advertising agency that specializes in aviation! Well, here is such an agency—an agency that already has a successful record of accomplishment in aviation—an agency whose president is himself a pilot—and whose chief executives have accumulated over six million dollars' worth of national advertising experience!

These unique facilities can help you win your share of the coming boom in aviation! Don't think your advertising budget too small—or for that matter—too large, for the employment of our services. Write, wire, or phone Norman Warren, 452 Fifth Avenue, New York City... CHickering 4-0440.

Air N Oj

perpetual days of U. S. Po no officer ion and 600 vete 1918-192 Among education Lines; C. Sapt. of C. A. "Si Post Office of Chicage Sears, av Public Sc man of of the A Edward I ive sec. Avenue, Membe are Major dent of Behncke,

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#### Air Mail Veterans Of '18-27 Organize "Last Man" Club

A group of twenty pioneers of the ir mail have formed the Last Man ioneer Air Mail Club in Chicago to rpetuate the memories of the pioneer of the air mail division of the S. Post Office Dept. There will be officers and no dues in the organizan and it is hoped that all of the 00 veterans of the air mail period 918-1927 will be banded into the unit. 1918-1927 will be banded into the unit. Among the directors are Jack Knight, ducational director of United Air tines; Capt. Benjamin B. Lipsner, first supt. of the U. S. Air Mail Service; C. A. "Steve" Cisler, formerly with the Post Office Dept.; J. A. Casey, manager of Chicago Municipal Airport; William Sears, aviation instructor for Chicago Public Schools; E. Van Vechten, chairthe purchasing agents' group of the Air Transport Association, and Edward Nelson, who is serving as ac-tive secretary, 2120 North Neva venue, Chicago.

Members of the advisory committee te Major R. W. Schroeder, vice-presi-ent of United Air Lines; David L. helphocke, president of the Air Line filots Association, and C. A. Arens, viation device manufacturer. These viation device manufacturer. tter three were not employed by the ost Office Dept. in the air mail

#### \$10,000,000 Engine Lab Asked by NACA

The National Advisory Committee Aeronautics has sent to the Budget reau for approval a proposal for inds to establish a new aeronautical igine laboratory. The project is excited to cost about \$10,000,000, of hich \$2,000,000 is desired immediely. Many communities over the untry are urging the NACA to build ne laboratory in their locations, but ne agency has not made a decision as ultimate location.

On April 18 the NACA will cele-tate the 25th anniversary of its first seeting. Plans are under way for a

table observance.

Fav Thomas to N. Y. Fay Thomas, for many years man-ger of the Carter Hotel in Cleveland, vorite hotel of the industry for the ational Air Races and generally recogized as aviation's hotel in that city. s been appointed to an executive sition at the Hotel New Yorker. New ork City, second largest hotel in the puntry. A farewell dinner sponsored y prominent newspaper, civic and viation leaders was echeduled at the ermit Club, Cleveland, on March 30.

#### AUTHENTIC

The daily press has been filled ith stories from Washington about vestigations of foreign plane sales, bout the higher cost of planes to he U. S., about the sale of military

Read the authentic, concise, inide analysis of this political conoversy in "Capital Notes" on page 21 of this issue. Prepared by the perts who write first hand about ingressional and government acvities every day for AMERICAN AVIATION DAILY.

#### Calendar

Apr. 8-9—6th Annual Conf., National Intercollegiate Flying Club, Washington, D. C.
Apr. 18—25th Anniversary, National Advisory Committee for Aeronautics

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Apr. 18—25th Anniversary, National Advisory Committee for Aeronautics.

Apr. 25-27—Air Congress of America Southwest Division, Tulsa, Okla.

Apr. 28—3d Annual Air Maneuvers, Atlanta, Ga.

May 1-3—American Society of Mechanical Engineers, Spring Meeting, Worcester, Mass.

May 11-12—2d Annual Aircraft Exhibit of the Aero Club of Kentucky, Bowman Field, Louisville, Ky.

May 27-28—NAA's National Aviation Forum, Washington, D. C.

June 1-2—Birmingham Air Carnival Birmingham, Ala,

June 9—7th Annual Air Classic Sponsored by the Junior Chamber of Commerce, Port Columbus, Columbus, O.

June 9-14—SAE's Summer Meeting, The Greenbrier. White Sulphur Springs, W. Va.

June 9-23—3d Annual Southwestern Soaring Contest, Wichita Falls, Tex.

June 17-21—American Society of Mech-

Tex.

June 17-21—American Society of Mech-

Tex.
June 17-21—American Society of Mechanical Engineers. Semi-Annual Meeting. Milwaukee, Wis.
July 4-6—Air Show. Denver. Colo.
July 7-3d Annual Air Races and Air Classic. Kalamazoo. Mich.
July 7-9—Ist National Air Congress and NAA Convention. Brown Palace Hotel. Denver. Colo.
Aug. 18-19—Air Show Sponsored by Sheldon Chapter of NAA, Rossolation Chapter of NaA, Rossept. 3-6—American Society of Mechanical Engineers. Fall Meeting. Spokane. Wash.
October—Air Line Pilots Association. Annual Convention, Chicago. Ill.
Oct. 7—Air Line Mechanics Association. Chicago. Ill.

Oct. 7-11—National Safety Congress and Exposition. Stevens Hotel. Chicago, Ill.

#### WASH. SAE MEETING

Arthur Nutt Principal Speaker at Banquet Closing Sessions

The national aeronautic meeting ponsored by the Society of Automotive Engineers and its Washington section was held in Washington, D. C., March 14-15. The meeting was climaxed with a banquet at which William B. Stout. president of Stout Engineering Labora tories, Detroit, was toastmaster. Principal speakers were Arthur Nutt, of Curtiss-Wright Corp., president of the SAE, and Clinton M. Hester, CAA Administrator.

Among those speaking at various sessions were Paul B. Lum, chairman of the Washington section, SAE; Carl T. Doman, of the Aircooled Motors Corp.; E. S. Hall, engineering consultant; W. W. Davies, of United Air Lines; Walter Forster, equipment engineer of the Curtiss-Wright Corp., St. Louis Airplane Division; and C. H. Wiegman, of Lycoming Division of Aviation Mfg. Corp.

#### Rhode Island Bill Would Create 5-Man State Board

A five-member State Civil Aeronautics Authority with supervision over aeronautics in Rhode Island, would be established under a "Uniform Aeroestablished under a Uniform Acti-nautical Regulatory Acti- Introduced in the Rhode Island state legislature March 13 by Senator Charles T. Algren, of East Greenwich. The bill provides for complete regulation of airports, with a licensing system for airports, landing fields, pilots, flying schools and flying

#### Announcement

American Aviation Associates, Inc., is pleased to announce the appointment of W. F. Coleman Company, publishers representative, as advertising representative for AMERICAN tising representative for AMERICAN AVIATION and AMERICAN AVIATION DIRECTORY on the west coast. Mr. Coleman maintains offices at 1038 Henry Building, Seattle; Room 1001, 485 California Street, San Francisco, and 530 West Sixth Street, Los Angeles.

#### Delta's Choice



Miss Laura Wizark

Newly appointed chief stewardess for Delta Air Lines, has been engaged in forming Delta's new stewardess staff which started regular duty on flights 1 and 2 on Mar. 15 when the line begins operation of two Douglas DC-2's, purchased from American Air-lines. Miss Wizark went to Delta from American for whom she was stewardess for approximately three and one-half years.

Varney With Lockheed

Walter T. Varney, airline pioneer who once operated services throughout the west and into Mexico, is now with the market research di-vision of Lockheed Aircraft Corp. He was employed by the Lockheed service department in August, 1939 and was recently transferred. He will handle customer service operation problems. Although he had long since severed connections with the line, the last airline operation Varney Air to bear his name was Transport, (Pueblo-El Paso) which changed its name to Continental Air Lines several years ago.

#### Pacific Club Trophy Goes to Maj. Seversky

Maj. Alexander P. de Seversky was honored recently by aviation executives, representatives of the Army and Navy air forces and Los Angeles officials at which time the Pacific Aviation Club Trophy was presented to him for his transcontinental flight on Aug. 1938, when he established a record of 10 hrs. 2 min. and 55% seconds, a mark which still stands.

Maj. J. L. Stromme, procurement planning representative on the west coast for the Army Air Corps, acted as toastmaster, and Councilman R. L. Burns, president of the city council, presented the trophy to Maj. Seversky.

Appearing on the program were Brig. Gen. Frank G. Lackland, recently ap-pointed wing commander of GHQ Air Force at March Field; Comdr. F. C.
Dickey, commander of Reeves Field;
J. L. Van Norman, president, Los
Angeles Chamber of Commerce, and Robert E. Gross, president of Lockheed Aircraft Corp.

Court of Claims Suit

United Air Lines' suit against the government concerning the 1934 air mail contract cancellations will be heard again in the U. S. Court of Claims beginning May 13.

Kindelberger's Son Dies

Howard Byron Kindelberger, 17, son of the president of North American Aviation, Inc., died March 11 from injuries sustained in an accident when he was thrown from a horse.

#### WEBSTER ADDS TO REGION PERSONNEL

Private Flying Division Gets Complete Set-up for Pilot Training Program

Grove Webster, chief of the private flying development division of the Civil Aeronautics Authority, has announced completion of the enlarged regional organization directing the civilian pilot training program sponsored by the CAA. The personnel includes many men well known nationally in aviation, some of whom have had prominent connections with manufacturing concerns or state aviation activities.

The following is the completed setup, with the first name listed in each region being the senior private flying

region being the senior private nying representative:

Region I: Roosevelt Field, Garden City, L. I., N. Y.:

Earl Southee, William Batchelder, George O. Gjoerloff, Everett O. Newman, Roland Rohlfs, Ernest O. Vetter.

Perion II. P. O. Roy 4227 Atlanta. Region II: P. O. Box 4327, Atlanta,

Georgia: Nilson, F. P. Carpenter,

Pendleton Edgar, Foster Forbes, F. L. Snavely.

Region III: 1204 New P. O. Bldg.,

Chicago, Ill.:
Charles E. Cox, William E. Barton,
Elmer P. Davis, E. H. Jose, Victor A.
Rickard, N. R. Richardson, Philip D.

Region IV: P. O. Box 1689, Fort

Worth, Texas: Ralph DeVore, Richard Beckley, Robert Horsfield, Hugh Herndon, Jr., Robert Horsfield, J. J. Mitchener. Region V: 8th Floor, City Hall

Region V: 8th Floor, City Hall Bldg., Kansas City, Mo.: John P. Morris, J. Edwin Jones, Jess Green, Virgil D Stone, Odell Garrison, Region VI: P. O. Box 1010, Santa Monica, Calif.: C. F. Lienesch, David Logg, John W. Webser, Robert C. Boog

C. F. Lienesch, David Logg, I. Webster, Robert C. Boone, Region VII: King County Airport,

Seattle, Wash .: Wiley R. Wright, Frank McKlveen.

This is the first time that private flying has had its own regional organization. All of the regional head-quarters are equipped with light planes exclusively for the use of the division

#### NIFC Conference Set

The sixth annual conference of the National Intercollegiate Flying Club will be held at the Wardman Park Hotel, Washington, D. C., April 8-9. About 200 college students from all ports of the country are expected. Edward T. Martin of the University of Michigan is president. The NIFC is a division of the National Aeronautic Association.

#### AIRCRAFT FACTORY **MANAGER**

Long established small aircraft manufacturer with growing business, located near New York City, has opening for A-1 military aircraft products man. Excellent opportunity for experienced executive who can deliver and meet expansion requirements. Must be near top in manufacturing department of large organization, or similarly situated. Address reply to Box 301. AMERICAN AVIATION, Earle Building, Washington, D. C.

#### JANUARY EXPORTS 421% ABOVE 1939

Second Largest Monthly Total Ever Recorded; France Takes Greatest Share

Aeronautic exports in January reached the second largest monthly total ever recorded when shipments valued at \$25,480,817 went to 60 markets, the Automotive-Aeronautics Trade Division, Dept. of Commerce, reports. Only 10% under the high mark of \$28,-893,811 for December, the January, figure was 421% above that for January, 1939 and represented 22% of the total value of aeronautic exports for the entire year of 1939.

Of note is the fact that January was the second month, December, 1939 being the first, since the department began compiling export data that valuation of aeronautic products sent abroad exceeded that of automotive products. January export of automotive products was valued at \$24,470,740.

was valued at \$24,470,740.
Principal importers in January taking 96% of the total were France. \$12.053,978; United Kingdom, \$4,040,912; Australia \$2,733,149; Canada, \$1,512,536; Turkey. \$1,116,641; Sweden. \$1,113,871; Finland. \$1,047,651; China \$497,993; Brazil, \$230,743,

and Japan, \$200,152.
Aircraft exported totaled 233 units
worth \$17,574,469, of which 205 were complete land planes bringing \$15.877,784, and 27 land planes minus engines valued and 27 land planes minus engines valued at \$1,628,060. France, purchasing 66 planes for \$8,047,407, led the aircraft buyers, followed by United Kingdom with 41 for \$2,800.900. Australia 28 for \$2,599,660, Canada 14 for \$1,359,035, Finland 17 for \$941,868. Turkey 34 for \$903,-817 and Sweden 15 for \$611,400.
France also was the principal market

for airplane engines, paying \$2,529,390 for 253 of the 364 total exported. China bought 34 engines valued at \$372,752 and

Argentina 16 for \$134,036.
List of the countries, other than the 10 highest already named, importing aeronautic products totaling \$10,000 or more

in January follows:

In January follows:
Netherlands Indies, \$182,842; Netherlands. \$177,182; Argentina. \$155,299; Mexico, \$55,250; U.S.S.R., \$54,661; Honduras, \$52,849; Siam, \$42,808; Colombia. \$24,430; Costa Rica, \$22,729; Peru. \$19,-233; Greece, \$18,818; Philippine Islands, \$17,282; Iran, \$13,556; B \$12,608; Yugoslavia, \$11,743 British India.

#### Air Goliath: The Douglas B-19

After five years of secrecy and speculation a few of the essential specifications of the Air Corps' new super-bomber built by the Douglas Aircraft Company at Santa Monica, were released for the first time by the War Department March 22. The B-19, as it has been designated, is by all odds the largest airplane built in the world to date and will be taken out of the large hangar at Santa Monica in the near future. It could fly to Europe and back non-stop with something like a full load of 28 tons.

Here's the data: Gross weight, approximately 70 tons; Wing spread, over 210 feet; Speed, over 200 miles per hour; Engines, four totalling 6,000 horse-power; Range, more than 6,000 miles; Propellers, 16 feet diameter, 3 blade constant speed; Landing gear, retractable, tricycle type. Useful load is over

The Boeing B-15, largest bomber built to date, has a wing span of 150 feet and gross weight of over 30 tons. The Boeing 307 Stratoliner has a wing span of 107 feet and gross weight of 22½ tons. The Douglas DC-4 transport has a span of 117.5 feet and gross weight of 43½ tons with provisional gross weight

of 24½ tons.

The B-19 will have a crew of 10 men and include heated and ventilated cabins and sleeping quarters. When the contract was signed five years ago the 3-19 was listed as Secret Project E. When the ship is finally seen by the public it will

be America's greatest air sensation.

#### LATE NEWS IN BRIEF

Douglas Aircraft Shifts Creation of a division of material headed by Walter A. Hamilton was an-nounced March 21 by Douglas Aircraft Co. Eric Springer, now assistant manager of the El Segundo Division, replaces Hamilton as manager of the latter divi-sion and Harry O. Williams combines the post of assistant manager with his present duties of superintendent. Hamilton, who was supt, of maintenance for TWA who was supt. of maintenance for TWA until last year, will have direction of all ordering, purchasing, releasing, storing, handling and disbursing of parts and materials used in production at the two Douglas plants. His office will be at Douglas plants. His office will be at Santa Monica, the new division func-tioning directly under Carl A. Cover, vice-president and general manager.

Panagra Orders DC-4's Pan American-Grace Airways has pur-chased 3 Douglas DC-4 four-engined chased 3 Douglas DC-4 four-engined 40-passenger Douglas transports for de-livery in 1941 for operation on the west coast of South America and across the Andes to Buenos Aires, it has become known, A 48-hour service from the U. S. to B. A. is the goal.

Swigart Succeeds Clemson

TWA announced March 21 the promotion of Lee Swigart to the post of dis-trict manager in New York City, suc-ceeding John Clemson, promoted to manager of a new region based at Pitts-burgh and reported elsewhere in this issue. Swigart's post as traffic manager in Kansas City is being filled by J. W. Letzkus, former manager of traffic and sales in southern California.

Northrop Flight Model John K. Northrop, president of Northrop Aircraft Inc., Hawthorne, Calif., has announced that a third-sized flight model, actually to be flown by a pilot. model, actually to be nown by a pilot, will take the air within 60 days. The ship is twin-engined and of "radical design." Northrop has four new military aircraft designs under way. His present payroll of 300 is expected to be 2,400 within six months. Work on the \$1,500,000 order for 24 planes to Norway will begin shortly. The Norwegian order calls for a Type N-3-PB attack bomber, 3-seater, equipped with a float. Specif-3-seater, equipped with a noat. Specinications are: 34½ feet over all, 47 feet 8 inch wing span, 10,000 lbs. gross weight. Armament: 3 fixed and 2 fiexible guns of approximately .30 caliber. The comof approximately .30 caliber. The com-pany's \$850,000 order for tail assemblies

Hughes Owns 30% of TWA Howard Hughes has increased his in-terest in TWA from 20% to 30% by acterest in Twa from 20% to 30% by ac-quisition through Hughes Tool Co. of Houston, Texas, of 119.154 shares at \$14 a share for \$1.668,156. He now owns 282,954 out of a total of 950,000 shares outstanding. E. Lee Talman, vice-president and treasurer, and Harold L. Warner, have been elected directors

for Consolidated Aircraft is now in pro-

Trans-Canada Expands Trans-Canada Air Lines will shortly add a second transcontinental schedule across the Dominion each way.

PCA Promotes Sullivan

Edward Sullivan has been appointed general traffic manager of Pennsylvania-Central Airlines. Employed by the company since 1934, he has been d.t.m. in Pittsburgh, Washington and Cleveland and more recently has been chief of sta-tions. His assistant will be J. O. Urqu-hart, and his staff will include Miss Mary E. Nutter, chief of women's divi-sion and Earl Vais, chief clerk.

Interstate Sports Trainer
The new sports trainer powered with
a 65-hp. Continental engine built by
Interstate Aircraft & Engineering, El
Segundo, Calif., is now being test flown.
With a backlog of \$230,000, Interstate has 206 men at work on hydraulic and me-



**Continental offers** 

#### New 1940 Lockheeds

For Luxurious Comfort, Speed, Dependability

Now Continental offers new comfort and convenience with a new 1940 fleet of Super-Lockheeds. When you travel to or through Colorado, it pays to fly America's Fastest Air Line.



chanical asemblies for Los Angeles plans plants.

Easter Travel Heavy As evidence of heavy air travel over Easter holidays, Eastern Air Lines dispatched 18 flights out of New York for Miami Saturday and Sunday, with no less than 11 north-bound flights out of Miami on Sunday, March 24. Regula schedule calls for seven flights daily. Al lines reported business well above 1939

#### No Excalibur Bombers

Lockheed Aircraft Corp. will no deliver as part of a recent order from Great Britain for 200 bombers any military versions of the four-engine commercial Excalibur, despite a hint to that effect in Flight, British weekly The contract calls for an improve model ship, with more powerful engines and improved streamlining characteristics, it was learned.

Birmingham Extends Extension of the north-south runway by 400 feet has been authorized for Birmingham, Ala., municipal airport. The extension will be completed in time for the annual air carnival June

Opens Export Office American Nickeloid Company, Peru.
Ill., has opened an export office at 201
North Wells Street, Ohicago. Salest representatives are being established in all principal countries abroad.

#### TWA Opposes Air Travel Card Plan as CAA Hearing on Discounts Begins

A definite statement by Transcontinenta & Western Air, Inc., that the present air travel card plan is adverse to the public interest marked the first week of hearings in Washington on the CAA investigation into the plan, government travel discount and other special discounts.

Hearings were held March 18-22, following which a recess was taken until March 26. Howard Westwood, Air Transport Association attorney, representing all airlines except TWA, stated that during the recess the carriers would attempt to "iron out" differences. He explained that they have been working on proposed changes in the credit-discount plan for some time and that

'constructive suggestions' might also result from the recess.

Testimony of airline executives and representatives of large subscribers during the first week was in favor of con-tinuance of the plan. Witnesses stated that elimination of the 15% discount would be harmful.

TWA, on the other hand, is taking the position that the present plan is adverse to the public interest, and that if the plan must be continued it should be managed by a non-competitive central bureau. TWA indicated that a general fare reduction applicable to everyone was more in the interest of the industry. Detailed report of the hearing will be published in the next issue.



## GOOD BUSINESS TO OWN

• It's good business to make your business trips in your own airplane. You'll save hours each day -days each week. And you'll get more attention when you fly to your appointments,

It's particularly good business to own a WACOfor Wacos are today's greatest airplane values. See your local dealer for prices, terms, and information on full-coverage insurance at 93/4 percent.





# REPUBLIC IS READY

When the name Seversky was succeeded by the name REPUBLIC, a new emphasis was applied within the organization—emphasis which the present management places on superlative Man Power, the greatest single force in aviation.

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The management of this corporation, adhering to a tradition for brilliant engineering and fine craftsmanship, has demonstrated that emphasis on Man Power not only produces better planes but expedites production under the most exacting standards of inspection.

Every division of the REPUBLIC organization— Engineering, Purchasing, Production, Administration—benefits by this policy which places

upon management three primary responsibilities: Selection of men who possess the right natural ability, both technical and personal. Utilization of each man's proved ability. Recognition and reward for superlative performance.

It follows that REPUBLIC produces some of the finest military airplanes in the world. REPUBLIC planes are now in the service of five nations on four continents. Recent, current and forthcoming designs include the U.S. Army Air Corps' P-35, XP-41, YP-43 and P-44 airplanes; the EP-1 and 2-PA export designs; the Warrior and Guardsman types. Four new airplanes are now moving from the drawing boards to the production lines.

As manufacturers exclusively of Pursuit and Fighter Aircraft, REPUBLIC is proudest of its continuing relationship with the Army Air Corps, to which it is indebted for support and guid-

> ance in every major advance in design, and of its cordial association with the Bureau of Aeronautics of the Navy Department.

REPUBLIC is ready — for today's job and tomorrow's!



# REPUBLIC AVIATION CORP.

FARMINGDALE, LONG ISLAND . NEW YORK

#### STINSON DISTRIBUTOR Prominent Aviation Men Form New Sales Agency in West

Appointment of Stinson Flying Corp. as the Stinson distributors for Southern California, has been announced Frank X. Mara, sales manager of Stinson Aircraft Division of Aviation Mfg. Corp. The new company will establish Stinson Flying Company units at each of the major airports in Southern Cali-fornia from Bakersfield and Santa Monica to the border. Headquarters are in the administration building, Union Air Terminal, Burbank, Calif.

Organizers of the corporation are O. Cox, a Stinson owner and western states sales manager for the Norge Corp.; John R. West, president of West & Associates, well known Los Angeles advertising agency handling aviation accounts; and Ted Lynn, president of Aircraft Accessories Corporation, builders of hydraulic actuating equipment for aircraft manufacturers.

#### Hinsch Family Equips Airport Control Tower

What is probably the only airport control tower named in memory of an individual will be opened April 1 at Lunken Airport. Cincinnati. The project was pushed by Charles A. "Bunny" Hinsch, prominent Cincinnati pilot. The Hinsch family has purchased \$8,000 worth of control of the City Council in accompanion. equipment and the City Council, in accepting the gift, named the tower the "Charles A. Hinsch Memorial" in memory of their late father, Charles A. Hinsch, former banker who fostered aviation in the city in its pioneering years. Personnel to operate the tower will be provided by the city.

#### Southwest Airmotive New Name of Booth-Henning

Southwest Airmotive Company is the new name adopted by Booth-Henning, Inc., Love Field, Dallas, Texas, although there has been no change in officers or personnel. The name was changed to make it more in keeping with the locale and services rendered Aircraft sales and aircraft distributor-ships have been relinquished in favor of repair and service. The company holds every approval classification issued by the CAA for repair stations.

NIFC Chapter at GWU A chapter of the National Intercollegiate Flying Club has been established at George Washington University, Washington, D. C., with Fred Mitz as president; E. R. Banning, vice president; J. H. Vaughn, treasurer, and M. O. Rhine, secretary.

#### Refresher Courses

(Continued from page 1)

division, Washington, or from regional

tentative list of the approved aviation schools at which refresher courses will be available follows: E. Wiggins and Intercity Airlines, Boston; Safair, Inc., Roosevelt Field, L. I., N. Y.; Baltimore School of Aeronautics, Baltimore; Alabama Institute of Aeronautics, Tuscaloosa, Ala.; Orlando Air School, Orlando, Fla.; Chicago School of Aeronautics, Chicago; McInnis Aviation Service, Minneapolis; Queen City Flying Service, Cin-cinnati; Spartan School of Aeronautics, Tulsa; Dallas Aviation School, Dallas; Tulsa; Dallas Aviation School, Dallas; Brayton Flying Service, St. Louis; Thompson Flying Service, Salt Lake City; Boeing School of Aeronautics, Oakland, Calif.; California Flyers, Inc., Los Angeles; Palo Alto Airport, Palo Alto, Calif.; Washington Aircraft & Transport, Seattle; and Johnson Flying Service. Missoula, Mont.

Michigan Wants the Air Tourist



come as landplanes on the state's thousands of lakes. Col. Floyd E. Evans, director of Michigan's board of aeronautics, reports that fishermen are using light planes more and more for fishing excursions during the winter and the photo at right shows Col. Evans (left) and I. L. Garthe, aviation direc-

tor of the Traverse City Chamber of Commerce in one of the winter huts on a lake discussing plans to improve northern Michigan's

winter huts on a lake discussing plans to improve northern Michigan's flying facilities. The map at right shows locations of the state's 51 airports and 78 landing fields, plus radio range stations.

Col. Evans' department has just completed a colored motion picture film, "Wings Over Michigan." now available for distribution. It is a 16 mm., 1,200-foot film, which takes 35 minutes in the running and depicts the use of light planes by sportsmen pilots who fly in northern Michigan to hunt and fish. Efforts are being made to get a summer. Michigan to hunt and fish. Efforts are being made to get a summer plane cruise organized with Traverse City as a concentration point. The time: late in June or early July. Information on the state's facilities and plans can be obtained from the Michigan Department of Aeronautics. Capital City Airport, Lansing, Mich.

#### Porterfield Moves

Porterfield Aircraft Company has moved to a new factory location at 2809 East 14th Street, Kansas City. it has been announced by E. E. Porterfield, president. The former fac-tory was at 18th and Wabash Streets. The new plant is a two-story building with glass on three sides. The company is currently producing 50, 65 and 75 hp. tandem models.

Aeronca Trainer Testing First tests of Aeronautical Corpora-on's new tandem trainer have been completed. Similar to the Aeronca Chief except for narrower fuselage, the trainer will sell for about \$200 less than the Chief. Gross weight is 1150 lbs. same chief. Gross weight is 1150 lbs. same as the Chief. It is powered with a 55 hp. engine. has top speed of 95 mph.. cruises at 85 mph. and lands at 35 mph. Cruising range is 250 miles.

Luscombe Salesmen-Pilots Luscombe Airplane Corp. has an-nounced the appointment of three salesmen-pilots as itinerant sales repnounced the resentatives. They are Robert D. Clampett of San Francisco, V. L. Wikoff of Decatur, Ill., and Charles E. Hastings.

Luscombe Distributor Seaboard Air Transport Inc., of Lum-erton, N. C., has been appointed southberton, N. C., eastern distributor for Luscombe air-

N. Y. Hangar Begun Construction of a \$48,000 hangar for private planes and airport mechanical equipment at LaGuardia Field, North Beach, New York City, was begun in mid-March. It will be situated at the extreme western end of the airport near the seaplane base and is expected to be completed by May 15.

Fire at Palestine

Hubert Sessions of Houston, Tex., lost his monoplane when fire broke out Feb. 29 in the hangar at Palestine, Tex., airport. Four other planes and equipment were removed in time. Incendiarism was suspected.

Operators Organize

An organization known as the Association of Denver Aviation Operators was formed March 1 in Denver, Colo., with Walter Prosser as chairman and Wilson vice chairman. zation will promote bet The orpromote better flying service, standardize operation methods and improve equipment and training.

Luscombe Distributor

The Knox-Fitte Company of Knox-ville, Tenn., has been appointed dis-tributor for Luscombe airplanes in eastern Tennessee and southeastern Kentucky.

#### The Culver Model L-CA De Luxe

2-place This closed low wing cantilever monoplane equipped with retractable landing gear was described in the last issue (March 15). The power plant is a Continental A75 and cruising speed at sea level estimated at 130 mph.



#### **Aeronautical Charts**

•

MICHIGAN

Foremost Verial Tourist State

New editions of aeronautical chars are now available from the U. S. Coast and Geodetic Survey. Washington, D. C., and from recognized dealers at major airports. Pilots are cautioned not to use old charts when new editions are available.

New Edition of Regional Aeronautical Chart

Feb. 1940. (Cancels Scale 1:1,000,000. Si 6-M. Feb. 1940. (Cancels previous edition). Scale 1:1.000,000. Size 26x3? Price, 75¢. Located in latitude 38°-4° north and longitude 114°-125° west, an area of some 245.000 sq. mi. Shows changes in air navigation facilities.

New Editions of Sectional Aeronautical Charts

(These cancel preceding editions. Pilots are warned against using obsolete charts. All sectional charts are scaled at 1:500.000 and priced at 40d each with a discount of 33% in orders including assortments, grossing \$10 or

cluding assortments, grossing \$10 or more).

CHICAGO. Feb. 1940. Size 20x42". Located in latitude 40"-42" north, longitude \$4"-90" west, covering an area of about \$1,000 sq. mi. Includes new radiorange at Ft. Wayne and an accumulation of changes since last edition.

LE GRANDE. Feb. 1940. Size 20x3". Located in latitude 44"-46" north longitude 114"-120" west, an area of about 47,000 sq. mi. Shows new radio range relocated and beacons relocated on Seattle-Spokane route.

LAKE OF THE WOODS. Feb. 1948. Size 20x3". Located in latitude 45"-50" north and longitude 90"-96" west, an area of about 45,000 sq. mi. Radioranges realigned at Kenora and Sloux Lookout.

MILES CITY. Feb. 1940. Size 20x3". Located in latitude 46"-48" north and longitude 102"-108" west, covering an area of about 47,000 sq. mi. New radio ranges at Big Horn and Golva and an accumulation of changes since last edition.

MILWAUKEE. Feb. 1940. Size 20x40".

accumulation of changes since last edition.

MILWAUKEE. Feb. 1940. Size 20x40°. Located in latitude 42°-44° north and 34°-90° west, an area of some 49,00° sq. mi. Realignment of the east leg of the radio range at Milwaukee and accumulation of other changes.

WILLISTON. Feb. 1940. Size 20x37°. Located in latitude 48°-50° north. longitude 102°-108° west, an area of about 45,000 sq. mi. Gives radio ranges realigned at Swift Current, Regina and Broadview.

Lycoming 65 OK'd for Luscombe

A Type Certificate has been issued for the Lycoming 65-hp. engine, manufactured by Lycoming Div., Aviation Manufacturing Corp., Williamsport. Fain the new all-metal Luscombe airplane. manufactured by Luscombe Airplane Corp., West Trenton, N. J.

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#### The Porterfield Model CP-65



A.T.C. tests were completed March 1 on the Porterfield CP-65 sport trainer, a development of the predecessor Model CP-50 although re-engineered for in-creased power. The new model has a esign resultant load factor of 7, the mpany states.

company states.

The wing has been increased in strength 30%. Spars are of solid spruce and plywood reinforcements, Ribs are of the rigid truss type with plywood gussets nailed and glued in place. Slotted ailerons of box spar construction with spruce and plywood. Two and a half pounds of lead in the outer leading edges provides dynamic balance. Horizontal surfaces have been redeclared and are of chrome molybdenum.

gned and are of chrome molybdenum bing spars, and mild steel channel ribs. They have been static tested with a load of over 850 lbs., the company states. The fuselage is of conventional welded steel tubing. The control system is completely dual even to the dual

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tem is completely dual even to the dual reake pedals and dual fuel shut-off controls. Sticks are four inches longer than the previous model. Model 65 is finished with eight coats of dope. Performance figures are given as: High speed, 108 mph.; Cruising speed at 80% rated power, 97 mph; Cruising speed at 6,000 ft. at 80% of rated power, speed at 6.000 ft. at 80% of rated power, 103 mph.; Rate of climb, sea level, 700 ft. per minute: Take-off and clear 50 ft. obstacle in clear air, 320 yds.; Stalling speed, 37 mph.; Range, 320 miles. Specifications given are: Length, 22 ft. 8 inches; Span, 34 ft. 9 inches; Wing area, 169 sq. ft.; Weight empty, standard equipment, 660 lbs.; Useful load, 500 lbs.; Gross weight, 1160 lbs.; Baggage capacity, 40 lbs.

Model 65 is available with any of the Continental or Lycoming engines of 50. S or 63 hp. Fuel tank of 13½ gallon capacity may be drained outside the ciplane by a valve operated from the cabin.

PIA Bids for Patrician

Reading, Pa.-Pittburgh Institute of Acconautics has made a bid for the remains of the 30-passenger Keystone Patrician destroyed by fire at Whander field. Only three such craft were built by Keystone Aircraft Co., Bristol, One of the tri-motored planes crashed shortly after it was built; the second was lost in the fire at Whander Field, nd the third is still flying passengers a South America, according to latest reports

Photo and three-way drawings of the new Porterfield CP-65 for which ATC tests have just been completed,



#### \$125,000 School Expansion Finished by Spartan at Tulsa

Three new dormitories having a capacity of 156 students have been built at Spartan School of Aeronautics, and the dining hall has been enlarged to serve 350 persons, according to announcement from the Tulsa, Okla., school. Over \$125,000 has been spent in the expansion program, covering erection of a modern brick classroom building, and future plans call for substantial additional expenditures. Current enrollment is approximately 320 students.

Spartan school now occupies 22 buildings at Tulsa Municipal Airport and four flying fields have been leased in the vicinity of the airport and are currently used by flight students. currently used by flight students. Fifteen planes comprise the commercial school training fleet.

#### PIA Opens 7 New Centers

Pittsburgh, Pa.—Pittsburgh Institute of Aeronautics has opened new centers in New York City; Albany, N. Y.; Newark, N. J.; Schenectady, N. Y.; Paterson, N. J.; Hartford and Bridgeport, Conn., to house extension preparatory courses in aviation mechanics.

#### **Experimental Hull for the Cub Amphibian**



Hayes Mfg. Corp., Grand Rapids, Mich., recently completed and shipped to Piper sheraft Corp. the first experimental hull, shown above, for the Cub Clipper amphibian which Piper will shortly introduce. The hull is of monocoque alumi-tum alloy construction. The 2-place craft will be powered with a Continental 3-hp. engine and will sell for about \$2500. The hull was designed by Ray applegate and the manufacture by Hayes signals the entry of subassemblies like lightlying. to lightplane building



#### **News in Pictures**



William G. Mullaney, above, is the newly elected chairman of the Ameri-can Airlines division of the Air Line Communication Employees Association.



Mr. A. C. Wilgoos of Pratt & Whitney Division of United Aircraft Corp., East Hartford, Conn., shown as he boarded a United Mainliner at LaGuardia Field, New York en route to Los Angeles on a business trip.



Pigs? No, just part of a delivery of Solar Aircraft manifolds at Solar's plant in San Diego ready for shipment as standard equipment on Wright Whirlwind engines.



Stewardess Jo Connor of Western Air Stewardess Jo Connor of Western Air Express gets a special pin following her selection as the outstanding WAE stewardess for 1939 from Thomas Wolfe, V.P.-Traffic. She's been with WAE since 1936.



Miami-bound for a vacation is Albert Selden, son of Lynde Selden, executive v.p. of American Express Company.

Phila. Airport in June?

Philadelphia is striving hard to finish its mammoth new airport, years under construction, by June 24. Major Jack Berry, manager of Cleveland Municipal Airport, has been retained in an advisory capacity on administration and

#### **CAA Testing Methods** To Fight Engine Fires

The Civil Aeronautics Authority has been conducting a series of experiments designed to detect and extinguish fires in aircraft power plants. Tests have been conducted at the National Bureau

been conducted at the National Bureau of Standards in Washington. A demonstration was given to newsmen and photographers recently.

With engine and wind tunnel running to simulate flight conditions, an oil fire was started in the vicinity of the engine cylinders. Two fire detectors placed on the engine the cowling just aft of the engine cylinders indicated the presence of the fire instantly by closing an electrical circuit thus lighting a red bulb attached to the left outside wall of the control room. The bulb lighted the instant the

room. The bulb lighted the instant the flame was visible.
Carbon dioxide gas was then applied to extinguish the flame. This gas in in liquid form under high pressure and was contained in a red steel bottle just aft of the nacelle. The time of gas discharge was approximately five seconds.

Passing from a liquid to gaseous extends. Passing from a liquid to gaseous state as soon as released from pressure, the gas completely smothered the fire. A gas completely smothered the fire. A Pratt and Whitney Twin Row Wasp 900 hp. engine completely treated with a fire proofing compound to prevent dam-age was used in the tests, as was also a Hamilton Standard constant speed

#### Air Corps Centralizes **Procurement Districts**

The Army Air Corps procurement districts have been consolidated into three principal districts as part of a trend toward centralization begun some time ward centralization begun some time ago. The districts are eastern, central and western. Instead of there being separate officers in charge of industrial planning, procurement planning and production engineering for each district, one officer will now exercise general supervision over each district.

Col. R. M. Jones, who has been in charge of industrial planning for the New York district is district supervisor of the eastern district with headquarters in New York. Major Lowell H. Smith formerly procurement representative for the Los Angeles district, is supervisor of the western district, Lt. Col. O. P. Echols, assistant chief of the Material Division, Wright Field, O., is supervisor of the central district with headquarters at Wright Field.

In another administrative order, the officers inspecting production at large aeronautical plants will have the additional duty of inspecting orders placed with other nearby plants for various supplies for the Air Corps.

#### Emmons Back from Europe

Maj. Gen. Delos C. Emmons, chief of the GHQ Air Force, arrived at Langley Field, Va., on Feb. 29 following a two weeks' tour of Europe on an "unexplained mission." At the time an "unexplained mission." At the time of his departure from the U. S., Gen. Emmons said he was making a "pleasure trip." Later it was revealed that the trip was on official business, but no details were learned.

#### AC Considers Cessna T-50

The Cessna T-50, a twin-engined, five-passenger transport, was flown to Wright Field, Dayton, O., recently by D. L. Wallace, president, and Thomas Salter, chief engineer, of Cessna Aircraft Co., Wichita, Kan., for consideration of the Army Air Corps' materiel division as a type adaptable to possible military use.

#### AC Hospital Ready in May

A new three-story hospital, approximately 183 by 150 ft., now under construction for the Army Air Corps at Chanute Field, Rantoul, Ill., will be ready for use by May 31, 1940, reports

#### Alaska Leads

Do Alaskans Fly? Asks Anthony J. Dimond, Alaska's Delegate to Con-gress. He recently testified at a Congressional hearing that in the fiscal year of 1939 there were per capita

116 times as many commercial planes in Alaska as in the United

70 times as many air miles flown in Alaska as in the United States. 23 times as many passengers flying in Alaska as in the United States 1.034 times as many pounds of freight and express carried by air in Alaska as in the United States. 48 times as many pounds of mail carried by air in Alaska as in the United States.

#### **CAA Pilot Dies**

William Stanley Rust, 29, an assistant engineering inspector for the Civil Aeronautics Authority, was killed when a Stearman biplane March 13 which he had taken up for a test flight crashed near Roosevelt Field, L. I., N. Y. The plane was owned by Francis B. Fields, fixed base operator of Bethany, Conn., and was recently equipped with a sliding cover for the rear cockpit. Mr. Rust was giving the plane a routine test following these structural changes but the ship failed to come out of the last of a series of spins. A former pilot for Mid-Continent Airlines, Rust was a graduate of Randolph Field in 1937.

#### Capt. Read Commands Base

Capt. Albert C. Read, commander of the aircraft carrier Saratoga since 1938, has been assigned by the Navy to be commandant of Pensacola (Fla.) Air Station, effective Mar. 16.

#### NA Advanced Trainer Delivered to Dayton

Delivery of the new North America Delivery of the new North America AT-6 advanced trainer is now being mad at Wright Field, the War Dept. an nounced March 13. Basically the AT-is an improved model of the BC-1A basi combat plane which was selected aft competition with other entrants in te conducted by the Materiel Division

The AT-6 is a 2-place, low-wing mon plane of all-metal construction. Equi ment includes instruments, flaps, controllable pitch propeller, landing ligh and retractable landing gear. It is powered with a 9-cylinder Pratt an Whitney radial engine. Gross weight approximately 5273 pounds and wispan is 41 feet 10 inches.

An interesting feature is the provisi for blind flying. Full equipment is in stalled in the rear cockpit, together wis a blind flying hood under the slidin canopy top. In emergency the hood can be released either by the student or b the safety pilot in the front cockpit.

Primary use of the AT-6 will be as

transition plane which will provide students who have mastered primar and basic training airplanes with the intermediate experience required before they are ready to fly pursuits, bombe and other types.

#### Col. Netherwood to Mitchel

Col. Douglas B. Netherwood, Arm Air Corps, has been relieved from dut as president of the Air Corps Board Maxwell Field, Ala., and assigned to duty at Mitchel Field, N. Y. Col Netherwood is the only officer remain ing on the active list of the U. Army who was in the original group of 14 assigned to the aviation section Signal Corps, on Aug. 20, 1914. This was the group which started the presen Army Air Corps.

#### C. A. A. ACTIONS

(Pilot Certificates, Letters of Authority, Publications, Miscellaneous. For Airline Regulation, See Air Carrier Record. Serial Numbers of Orders and Dates in Parentheses.)

#### Instructor Ordered to Show Cause

Robert O. Aliman, Overland, Mo., holder of commercial pilot certificate No. 28065 with flight instructor rating, has been directed to appear before a CAA examiner and show cause why this certificate should not be revoked or suspended, for, while giving instruction to a student pilot, flying over a congested area at an altitude less than 1,000 ft. (Mar. 15. 433).

#### Pilots Suspensions

James Henry Layne, Van Nuys, Calif., student pilot certificate No. 59350 suppended for a period of 30 days for piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction, and other violations, (Mar. 8, 420).

Richard G. Purcell, Jr., Burbank, Calif., solo pilot certificate No. 66666 suppended for an additional 30 days from Mar. 11 pending proceedings instituted to determine whether said certificate should be further suspended or permanenty revoked. (Mar. 11, 428).

Referred to Dept. of Justice

Referred to Dept. of Justice

The following cases (Mar. 5, 415) were referred to the Attorney General for appropriate action under the Civil Aeronautics Act for certain violations of the Civil Air Regulations: Marvin O. McKnight, Houston, Tex., for piloting an aircraft on a civil airway carrying a person other than a certificated instructor actually giving instruction. in violation of the terms of his student pilot certificate, and on such flight for flying said aircraft acrobatically without being equipped with a parachute; also (Mar. 8, 421), James Henry Layne, Van Nuys, Calif., for knowingly and wilfully altering his student pilot certificate by deleting the word "student"; (Mar. 12, 429), Carl G. Anderson, Burbank Calif., for failure, in approaching for a landing, to circle an airport to the left sufficiently to observe other traffic, and other violations of the CAR: (Mar. 12, 430), Charles Odell Johnson, Houston, Tex., for giving flight instruction without being possessed of an instructor's rating, in violation of the CAR: and (Mar. 15, 432), F. B. Newton, Houston, Tex., for piloting an aircraft on a civil airway without being possessed of a pilot certificate, and other violations of the CAR.

Civil Penalties

#### Civil Penalties

The following orders in compromise of civil penalties incurred for violations of the Civil Aeronautics Act and the CAR were accepted by the CAA: (Mar. 12. of the Civil Aeronautics Act and the CAR were accepted by the CAA: (Mar. 12, 431), Milford C. Hutchinson, Martins Ferry, Ohio, for piloting an aircraft earrying a person other than a certificated instructor actually giving instruction. In violation of the terms of his student pilot certificate, \$50.00; Clyde Jay Kirk. Sait Lake City, Utah, for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations, \$50.00; also (Mar. 15, 436), Joe H. Ramaker, Great Falls, Mont., for piloting an aircraft on a civil airway without being possessed of a valid pilot certificate, and other violations, \$100.00; and (Mar. 8, 419), Carroll Burkhard, Winner, S. D., for piloting an aircraft on and across various civil airways without being possessed of a valid pilot certificate, \$50.00; Robert Des Marais, Wayzata, Minn., for piloting an aircraft acrobatically at an altitude of less than 1,500 ft., and other violations. \$100.00.



Eclipse Starters

Starters

Starters

of every type, for every service
of every type, every confidence
have earned every confidence



THE WIDE RANGE of Eclipse Aircraft En-I'm will have been provided precisely the equipment desired for any engine under any service conditions. More than twenty years of intensive development engineering, under strictest quality standards, have made Eclipse Starters the consistent first choice of the airlines. Used also by military and naval services both in America and abroad. ECLIPSE AVIATION

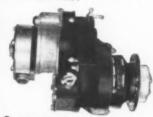
DIVISION OF BENDIX AVIATION CORPORATION BENDIX, NEW JERSEY, U. S. A.



Series 11 Hand and Electric Inertia Starter with solenoid engaging device for engines rated up to 1000 H.P.



E-160 Direct Cranking Electric Starter for engines rated up to 1000-1500 H.P.



Series 41 Direct Cranking Electric and Inertia Starter for engines rated at approximately 1500 H.P.



Hand Turning

Gears for engines rated up to 600 H.P.

Left: Cartridge Starter for en-gines rated up to 1000 H.P.

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American Aviation for April 1, 1940

#### **American Studying Possibilities** For Air Freight With Cargo Ships

C. R. Smith Outlines Formula For Separate Freight Operation; Says Specially-Designed Equipment Is Essential

American Airlines is studying the feasibility and economics of operations exclusively for transportation of air freight, according to C. R. Smith, president, who outlined to AMERICAN AVIA-TION the studies now in progress. There are no immediate plans for the insti-tution of air freight service, however.

Pointing out that express revenue for 1939 trailed far behind mail and passenger revenues, Mr. Smith gave the 1939 figures for his company as fol-

Passenger Revenue ..... \$10,712,598 Air Mail Revenue .....
Express Revenue ..... 450,251

"Are we ready to confess that air transportation has no utility for the transportation of cargo, comparable to the transportation of passengers and mail?" he said. "We do confess that mail?" he said. "We do confess that if we remain satisfied with our present volume of cargo business and with its relationship to the total volume of our business.

"Many plans have been instituted for the operation of air cargo services; none of them has succeeded. Each has been of them has succeeded. Each has been based upon the operation of the type of airplane available at that time, usually resulting in an original air passenger plane being converted into an air cargo plane. Sooner or later the air cargo plane. S operator found out:

"1. That the volume of business available, at a price which would meet the operating expenses and a reasonable return on the investment, was not sufficient to keep the business going, or

"2. That, if the price of air cargo transportation was set at a price low enough to get the volume business, the gross income would not meet the

operating expenses.
"The reason for both of these ultimate results was that the airplane used or to be used would not operate economically on a per ton-mile basis, econo-mically enough to get the volume busi-ness at a rate which would permit profitable operation.

The railroads, in the conduct of their cargo business, do not use in that service modified passenger cars; they use equipment designed and most effective for the transportation of cargo. That we must do in this business.

"Here is what we plan to do:

"1. Correlate the ideas of the transport operators, the manufacturers, the express company and the Army with respect to the best and most effective airplane which can be designed for the transportation of cargo.

"2. Put the airplane down on a piece of paper and endeavor to ascertain what will be its operating cost on a 'per ton-mile' basis.

"3. Take that projected ton-mile cost and apply to it a reasonable and attainable 'load factor' on the different routes where it would be logical now to operate a cargo service. The attainable and reasonable 'load factor' applied to your total cost would give you your rea-sonable 'actual' cost of transportation per ton-mile.

"4. Apply to that 'actual' cost a factor to permit you to amortize your investment and secure a reasonable re-turn thereon. From that you could then secure the price per ton-mile that you would have to sell the transportation for in order to stay in business.

"5. Take that price and make a study of the potential cargo market, at that price per ton mile, and see what the potential volume was. "6. If that study disclosed that enough business could be secured, at a price which would permit profitable operation, you would go into the air express and freight business.

"7. If that study disclosed that, at the price you were required to sell the transportation for in order to earn a profit, the volume was not now sufficient, wou would not go into the price."

cient, you would not go into the air cargo business until an airplane could be designed which would permit you to operate with profit.

We think that we should begin to think about air cargo in the terms of cost per ton mile' rather than 'cost per pound mile'. The criterion of what we can do will be the utility of the cargo plane which can be designed; that we are trying to find out about.

#### Mirow's Will Continue

Mrs. Madeleine Mirow, widow of Hans Mirow, late veteran Alaskan flyer who owned and operated Mirow Service at Nome, has indicated that the service will continue in operation both in commercial passenger and tion both in commercial passenger and freight service and under contract to carry U. S. mail. Announcement was made by Earl L. March, chief clerk, Railway Mail Service, after a routine tour of the eight star routes covered by the Mirow service. Company owns seven planes and employs two pilots-Jack Jefford and Fred Chambers. E. L. Roberts is office manager of the organi-

#### New Alaska Airline

Naknek Airways has been formed by Herman Herman to operate in Bristol Leon Alsworth, pilot, has joined the company. Herman has a Stinson and a Cub. Headquarters will be at Koggiung.

#### Cold Weather Propeller Operation Studied in Hartford Test House

In anticipation of expected future aircraft operation at high altitudes and low temperatures, Hamilton Standard Propellers Div., with the completion of its new test house for cold weather research, marks another addition to research facilities of United Aircraft Corp. at East Hartford, Conn.

Previous studies of propeller cold weather operation and its effect on tol-erances and clearances on hydraulic types of propeller systems entailed re-sort to flight and laboratory tests in which measurement and analysis of conditions were possible only in a very limited sense.

With the development of the new test house, where temperature can be lowered to 50° below zero, an operator sitting at the control desk can control conditions and equipment within the 12-ft. square cold room and observe on the instrument panel ahead of him records of temperature in the cold temperatures within the rotating propeller hub, propeller rpm.'s and propeller oil pressure. Through an insulated window in the center of the instrument board, the operator watch the operation of the propeller

The test rig is so designed that it is possible to test a propeller without the hub. In having blades attached to the hub. In

#### Senate Inquiry Fizzles

Senator Warren Barbour's effor to launch a Senate investigation the Civil Aeronautics Authority a result of the Authority's order designating New York Municipal Airport as co-terminal for the New York metropolitan area, was short lived. A subcommittee headed by Senator Bennett Clark of Missour. conducted a hearing on the No Jersey Senator's resolution but vote disapprovingly on his request by 4 vote of 4 to 1, Senator Barbour dissenting. The majority report was submitted to the full Commerce Committee March 19 and is not expected to be changed.

their place stubs, gears and weigi simulate the actual centrifugal load is posed upon the hub by full-size blad The test rig speed can be controlled a governor so as to duplicate the of constant speed operation obtained actual propeller-engine combinations

The test house and its equipme designed by Hamilton Standard gineers, can closely duplicate actu-installation set-ups, it is claimed, ma ing it possible to work out at an desired temperature problems involving various types of airplanes.

NACA Buys Cub

The National Advisory Committee for Aeronautics has purchased a Piper Cub trainer for experimental purposes at Langley Field laboratories

#### Conferences Continue With Allies; Norway Buys From Northrop, Douglas

While executives of leading aircraft and aircraft engine companies conferred in New York with the British and French purchasing missions, orders from other foreign countries continued to be received in this country.

Norway placed two orders for air-craft with Los Angeles companies for a total of \$2,500,000. The new Nor-

throp Aircraft, Inc. plant at Hawthom Calif., obtained the largest order fr 24 light patrol bomber seaplanes, while the Douglas Aircraft Co. received a order for 12 smaller land attack planes

The Norwegian order is the fir for pioneer Jack Northrop's new company. Until now Northrop has been building assemblies and parts since the plant was opened last year. Norwegian ship is known as the Nor throp N-3 patrol bomber, a single engined monoplane equipped with large pontoon. The Northrop backley is now \$2,350,000.

Douglas will build a light single engined attack monoplane for the Scan dinavian country. Decision for the dinavian country. Decision for the purchases was made by Kristian Ostor

Norwegian naval attache.
The Allied purchasing missions a expected to reach the buying state after April 1. Conferences during the latter half of March were concerned principally with current business at later turned to availability of certain types of engines and airplanes. (Fauthentic background of the Washin ton angle on foreign purchases re Capital Notes in this issue—Ed.)

More orders from smaller cou are expected. A Rumanian military official is now in the United States and is understood to be in the market for bombers and pursuit planes.

Consolidated Aircraft Corp., Diego, is building \$9,000,000 worth of patrol bombers for a foreign purchase understood to be Great Britain. company's backlog now stands at \$40 000,000 and further orders are expected. The Navy released the PBI patrol bomber for export stripped military secrets.

Backlogs of four major Los Ange County aircraft companies stood \$225,000,000 on March 10. By f the totals are: Douglas, \$90,000,000 Lockheed, \$70,000,000; North Ameican, \$50,000,000; Vultee, \$15,000,00

Pittsburgh's Public Wants to Learn



In order to make Pittsburgh's public better acquainted with flying, the Pittsburgh Aero Club, of which Clifford Ball is president, has sponsored a free ground school in cooperation with Graham Aviation Corp. of Pittsburgh-Butler Airport and THE PITTSBURGH PRESS. Limited to 1,000, the applicants numbered over 1,500. Instructors are Everett E. Hart, of Graham Aviation; Capt. Robert H. Hancock, supt. of maintenance at Allegheny County Airport, and Prof. George B. Thorp, associate professor of aeronautical engineering at Carnegie Institute of Technology. Each lecture is given in printed form with illustrations. Free flying courses are being given to the five top-ranking students by Graham Aviation. Guest speakers include Louise Thaden. Bendix Trophy winner; Major Al Williams of Gulf Oil Co., and Jack Knight, educational director of United Air Lines. Photo shows Everett Hart discussing air navigation with a group of husband and wife and father and son combinations enrolled in the school.

powered by Four Twin Wasps Into Army service goes another four-engined bombardment type, the Consolidated B-24. Weight: 20 tons. Range: 3000 miles. Speed: more than 300 M.P.H. Power: dependable Pratt & Whitney engines. PRATT & WHITNEY AIRCRAFT UNITED AIRCRAFT CORPORATION EAST HARTFORD, CONNECTICUT

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# COULTER ELECTED WESTERN AIR HEAD

Largest Stockholder Made Director for First Time; Other Officers Re-elected

William A. Coulter, since 1934 the largest individual stockholder of Western Air Express, has been elected president of the airline replacing Alvin P. Adams who has been on Lave of absence for some months. Mr. Coulter has long been identified with the Pennsylvania coal mining industry and maintains his office in Philadelphia.

Re-elected by the board to serve with Coulter are Leo H. Dwerlkotte, first vice president and secretary-treasurer; Charlie N. James, vice president-operations; Thomas Wolfe, vice president-traffic, and Ernest H. Brown, assistant secretary.

Mr. Coulter was elected to the board

Mr. Coulter was elected to the board for the first time. Other directors who were re-elected are: Serge F. Ballif, Jr., Los Angeles; Charles Boettcher II, Denver; L. H. Dwerlkotte, Los Angeles; Harold B. Fabian, Salt Lake City; Stanley W. Guthrie, Los Angeles; Charlie N. James, Los Angeles; James Q. Newton, Jr., Denver; William F. Nicholson, Denver; Ralph Waycott, and Thomas Wolfe, both of Pasadena, Calif.

woile, poth of Pasadena, Calif.

(An examiner's report recommending merger of United Air Lines and Western Air Express has recently been issued and reported in this issue—Ed).

#### 9 Hours to Hawaii

Commenting on Pan American's announcement in Chicago of San Francisco-Honolulu landplane service in 1942, reliable sources in Los Angeles say that the airplane to be used by PAA will be the Lockheed Excaliber, rated at top speed of 300 mph. and cruising at 262 mph. PAA has ordered three of the fourengined planes with option for three more for delivery beginning in the summer of 1941. The speed would permit a nine hour hop from California to Hawaii. The Excaliber will carry 30 passengers, will have four 1200 hp. engines and a range of over 2500 miles. In January a Pan American official described the Excaliber as "perhaps the ship with which we'll test the theory of landplane operation over water."

#### Traffic Pattern



Army Air Corps flying cadets in training at Grand Central Air Terminal, Glendale, Calif., are using a newly devised "tri-dimensional traffic pattern" completed by Capt. H. C Claiborne, chief instructor shown above at right. Tiny airplanes mounted on adjustable tracks above a miniature airport can be adjusted to any flying pattern and before the cadets go aloft they are shown on it just what they are to do in the air that day. Capt. K. P. Mc-Naughton, (left) commanding officer of the Air Corps Training Detachment at the school, is looking the device over.

#### Western Air Acquaints Its New President



William A. Coulter, newly-elected president of Western Air Express, shown seated following directors' meeting. Standing left to right are: Charlie N. James, vice-president—operations; Leo H. Dwerlkotte, first vice-president, and Thomas Wolfe, vice-president—traffic.

#### TWA-Marquette Deal, Citizenship Issue, Heard by CAA Examiners

The question of whether Marquette Airlines was a U. S. citizen during the "grandfather" period, together with TWA's application for approval of purchase of Marquette, were the subjects of a CAA hearing Mar. 12-15.

Citizenship of Marquette from May 14 to Aug. 22, 1938, hinges on the date John McKelvy, Pittsburgh financier and backer of Marquette, purchased 2,400 shares of the company's stock from Peter Beatty, son of the late Admiral Lord Beatty, British naval commander. Both McKelvy and Francis Callery, of Emanuel & Co., told CAA Examiners F. W. Brown and Francis Reilley that McKelvy's note for Beatty's stock was dated Apr. 30, 1938, or a few days later.

On the purchase question, Jack Frye, president of TWA, testified that the first price at which Marquette's St. Louis-Cincinnati-Detroit route was offered was \$1,000,000. Final terms were \$350,000, of which \$275,000 is to be in cash on the closing date and the remaining \$75,000 in one-year notes, he said. In addition, \$30,000 is to be paid in cash on ex-cution of the contract, and TWA, starting Jan. 6, 1940, is paying \$10,000 per mo. to McKelvy, until closing date. If the deal is consummated, McKelvy is to keep the \$10,000 payments, but otherwise TWA will get one-half back, Frye said.

After turning down some Marquette offers, TWA re-opened negotiations after hearing that Delta Air Corp. was planning to buy the line for \$500,000, Frye explained. He added that the final contract was signed after help was received from Sigmund Janas, president of Canadian Colonial Airways. Janas is to receive a \$35,000 commission.

The \$350,000 is reasonable, Frye said, because the effect of adding Marquette "will more than justify the price we are paying." He pointed out that in 1936 Eastern Air Lines paid \$150,000 to Wedell-Williams for a New Orleans-Houston line, and that in 1937 United Air Lines paid \$209,000 to Wyoming Air Service for Cheyenne-Denver. FWA is able financially to meet the payments in the contract, he said, adding that the company will take over all Marquette's personnel. Frye emphasized that TWA needs access to major traffic

centers, and that it now lacks exclusive cerritory. He expressed the opinion that of the deal is disapproved, another carrier, probably American, might try to

rier, probably American, might try to buy Marquette. Winston W. Kratz, Marquette president, testified that the company's 1939 losses were \$134.759, while from May 4 to Dec, 31, 1938, were \$97.410. Infrequent schedules, daylight-only operations and lack of all metal equippent hindered development of passenger traffic, he said. Witnesses from St. Louis, Cincinnati, Toledo, Dayton and Detroit, also stated that larger planes and better service would increase use of the line.

and better service would increase use of the line.

Vincent P. Conroy, TWA vice-president-traffic, stated that the company will use DC-2's on the route, with the possibility that DC-3's will be used after TWA gets its four-engined Boeing 30's. E. Lee Talman, TWA treasurer, told the examiners that if the route were taken over by his company but operated separately, losses for the first three years would be \$72.448, \$91.627 and \$52.115, respectively (no mail pay included). However, he added, because of the fact that the route will be operated as part of the TWA system, net operating income to the system from the line would be profits of \$46.398, \$39.104 and \$91.706, respectively. TWA estimates that 75 additional employes, including the entire Marquette organization, will be needed on the route during the first year, Talman said, adding that the number increases to 119 for the second and third years.

David Behncke, president of the Air Line Pilots Association, told the examiners that TWA has agreed to take over Marquette's flying personnel, placing them on the seniority list according to length of service, but may put the pilots on probationary status for six months. The ALPA objects to such probation, he said, calling it "fundamentally wrong, unfair and not in line with good practice."

Brief testimony was also given by Janas, who explained his participation in the deal, and Dr. Dillon Smith, of the CAA's bureau of economic regulation, who presented statistical exhibits.

#### Uniloy Corp. Expands

Uniloy Accessories Corp. of Lancaster, N. Y., formerly Universal Alloy Products Co., originators of the light aircraft tail wheel assembly, is adding facilities for the production of common aluminum and high strength aluminum-alloy castings for aircraft use. Universal Alloy Products Co. was formed in 1932 and at that time was the only company manufacturing airplane tail skid shoes.

#### URGE AIRPORT AID

State Officials Endorse Federal Partinipation of 75%

The southeastern region of the National Association of State Aviating Officials, meeting in Columbia, S. C. March & and 9, adopted a resolution endorsing the movement to provide federa funds for the development of a national airport system. The resolution asket that \$125,000,000 be appropriated initially for the program and that the development be on the basis of 75% Federa participation and 25% state and/or local participation. The resolution suggested that allocation.

The resolution suggested that allogation be made to states on the basis of the following formula: 30% on population, 30% on area. 15% on airway milet 15% on state airport system. 5% on number of certificated pilots in the state and 5% on the number of certificated planes in the state.

Signers were Dexter C. Martin. 1st vize president of NASAO and director of the South Carolina Aeronautics Commission: Asa Rountree, Jr., 2nd vice presiden: NASAO, and director of airfield development for Alabama; H. C. Whitner, regional vice president NASAO and director of aviation for Florida: G. J. Paulie, director of the Tennessee Bureau of Aeronautics; and Richard C. Johnsenber of the Georgia Aeronautics Committee.

#### Dayton Airport Operator

George McSherry has been appointed air control officer in charge of operations at Dayton, O., municipal airport. In aviation six years, McSherry was secretary-treasurer of the Moore Flying Service for several years, was station manager for the old Columbia Air Lines, and was employed for a time by TWA at Chicago until his appointment last year as TWA's radio operator and passenger agent at Dayton.

#### Abandoning Whander Field

Known as Berks County's first air port, Whander Field, in the Reading Pa., area, will be abandoned and will revert back to a farmland. Port wards with the closed when its operators obtained positions at Reading's new \$1,000,000 municipal airport. Whander Field owned by Edward Hartman, was opened in 1927 and founders were Russel Owen, Pottsville, Pa., and A. C. Carl pilot for Pennsylvania-Central Airlines Third partner was the late Arthur Arrowsmith.

#### McCarran

(Continued from page 1)

to the states according to a formula suggested by the National Aeronautis Association: one-third on the basis of population, one third on geographical area, and one-third according to the proportion of civil airway mileage to total U. S. civil airway mileage.

total U. S. civil airway mileage.

The CAA would allot the funds in the state agency or state official legality designated to foster and encourage airport development or, at the request of the state agency, to a political subdivision.

Principal requirements of the bill call for (1) CAA approval of applications and plans; (2) limitation of Federal contribution to 80%, unless for a national defense project of the War or Navy Departments; (3) compliance with CAA rules and regulations and (4) state certification of plans, specification of plans of

cation, estimates, contracts, etc.
A companion bill will be introduced in the House shortly. Senator McCarran's bill is strongly backed by the National Aeronautic Association, the airport division of the American Road Builders Association, and numerous other aviation groups.

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#### PAA ADOPTS TERM 'STRATO-CLIPPER'

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r pointe opera-airport, ry was Will Not Use "Stratoliner" Which TWA and Boeing Chose for 4 Engined Model 307

Pan American Airways has launched an extensive publicity campaign for its three new four enginer Boeing 307 33-passenger transports which it is calling "Strato-Clippers." TWA will take delivery later this spring of five of the same ships which will be known as Stratoliners.

as Stratoliners.
First of the three PAA ships has been given the name "The Flying Cloud" after one of the speediest of the early Yankee sailing clippers.
Because the Boeing 307 has a supercharged cabin providing for maintenance of low-level atmospheric presentations.

sure while flying at high altitudes, Pan American is emphasizing the advantages of flying at above 25,000 feet, and has distributed to the press a large clip sheet featured by an illustration of how weather in the lower stratas is avoided.

The first of the PAA ships has com-pleted CAA tests. It is understood that one or two of the ships will be placed into service in South America.

The cabin interior is understood to

The cabin interior is understood to be exceptionally impressive.

The 307 has a wing span of 107 feet, length of 74 feet, gross weight of 45,000 pounds, useful load of 15,240 pounds, a day seating capacity of 33 passengers and night sleeping capacity

passengers and night sleeping capacity of 25 passengers.

PAA press data listed the maximum speed at 6,000 feet at 240 mph. Service ceiling is given at 21,400 feet, and service ceiling with three engines is 16,000 feet. The Strato-Clippers are powered with four Wright Cyclone engines with total output of 5,000 hp.

#### Fairfax Reports Profit for Airport; Suit On

As stockholders of Fairfax Airports Inc., sought in court an accounting of costs of land and improvements comprising Fairfax Airport of Kansas City, Kan., the management of the port reported a net operating profit for the year 1939 in excess of \$5,000, not including

interest on investment or taxes.

Stockholders filed the suit in equity tourt at Topeka late in January, the defendant being Kansas City Industrial Land Co., a subsidiary of Union Pacific

Railroad, operator of the field.

Meanwhile C. E. McLaughlin has been elected president of Fairfax Airport Inc., other officers being S. H. Reynolds. vice-president, and R. C. Wagner, secretasy-treasurer. Directors elected are J. C. Norman, George A. Locks, J. R. Clagett and Carl B. Rexner.

William S. Green, manager of Fairfax Airport, reports that the largest income is from rents, The Army and Navy lease four buildings, Rearwin Aircraft & Engines Inc. leases one, the Sweeney school two buildings, and one hangar is used for private flyers. There is no scheduled operator.

The airport will be enlarged in the future from the existing 240 acres to about 560 additional acres. A large amount of land is available for factories and hangars, Green said, and all sites are supplied with sewers, municipal water and electricity.

#### Army Surgeon Honored

Lieut. Col. David B. Myers, flight surgeon of the Army Air Corps at Hamilton Field, California, was honored March 4 on his retirement from active service.

#### Boeing's Supercharged Sealed Cabin Transport











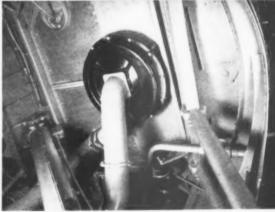
First of the three 33-passenger four-engined Boeing trans-First of the three 33-passenger four-engined Boeing transports built for Pan American Airways is shown at top. It has recently been approved by the CAA. Transcontinental & Western Air. Inc., will take delivery of five of the Model 307's later in the spring.

Second row of photos show the interiors specially designed for Pan American. There are nine single seats while the compartments seat six each. Note small windows made necessary by supercharging of cohin.

while the compartments seat six each. Note small windows made necessary by supercharging of cabin.

Third row photos show crew members at their posts. The captain with white hat is at left and the First Officer is at right. Behind the captain on left is the radio officer and across from him is the engineering officer. Other photo shows engineering officer who is also shown in the first group, while the navigator is shown in background. A steward makes a total of six in the crew.

At right is the supercharger. The biscuit-shaped object is a blower which sucks in rarefied atmosphere of the high altitudes, compresses it, passes it through an air conditioner and a heater, and pumps it into the cabin. Used air passes out through a valve at the tail of the plane. There are two of these blower units, one of which is adequate to carry on alone.



#### Winter Soaring O. K.

Soaring is not just a warm weather sport judging from winter activity at Harris Hill, Elmira, N. Y., soaring center of the U. S. Starting with a "Snowbird Meet" at Thanksgiving, the ridges near Elmira have been an attraction all winter for soaring and ski-ing enthusiasts alike. Paul A. Schweizer of Schweizer Aircraft Corp., El-mira, reports that Youston Sekella and R. McGrath took off in their two-pace sailplane last month and set a new record of 30 minutes for the 38-mile flight to Towanda, an average speed of 75 mph. Winter thermals have been found ideal for soaring.

#### Solving Production

With the French aircraft manufacturing industry concentrating on military production, Air France, the government airways system, has decided to build its own airplanes, according to a recent issue of *The Aeroplane*. The first type to be built will be the Bloch 161, a four-engined transport, which has made its first flight tests. The British magazine views the move with special significance and suggests that Britain should follow the same

#### New Spokane Manager

Walter M. Broberg, formerly an engineer with the federal public works administration, has been appointed city airport manager and city hall custodian at Spokane, Wash. He succeeds T. A.

#### "Hine's Counsel" Prepared

The 32nd annual "Hine's Insurance Counsel.—An Approved List of Insurance and Transportation Defense Counsel." with a supplementary list of counsel for airlines, has been published for 1940 by Hine's Legal Directory Inc., First National Bank Bldg., Chicago, Ill.

#### **Approval of United-Western Merger** Recommended by Examiner Pound

No Reason for Holding Back Improvement, 41-Page Report Says; Calls WAE "Vital Part" of Transcontinental System

With the statement that there is no reason for holding back any improvement which can be made in an estab lished line of transcontinental importance, Special CAA Examiner Roscoe Pound on Mar. 14 recommended in a proposed report that the application of United Air Lines for permission merge with or acquire control of West-ern Air Express be approved.

The report, which, if approved by the CAA, may lead to numerous other merger proposals in the industry, stated that operation by one company will offer a definitely improved New York-Los Angeles service. Dean Pound found that the transaction will not be adverse to the public interest, will not create a monopoly, and will not be un-fair to WAE minority stockholders.

Because UAL has not decided whether to merge with WAE or acquire its assets, the report recommended that "the matter be retained on the docket of the Authority in order to pass upon the exact method of carrying out the approved acquisition or merger, as between the plans proposed in the application, in order to assure fairness to the minority stockholders of without over-capitalization, Western and in order otherwise to protect any interests which may be proved to be involved in the final consummation.

In a discussion of public interest, Dean Pound, quoting numerous court decisions, stated: "It means the interest of the public as a whole, as contrasted with that of particular local communities; the general public interest although there may be hardships in in-dividual cases . . . It means the ulti-mate public interest when there is some conflict between the interest of a local community or a particular business or individual and that of the general pub-lic . . . Hence incidental diversion of lic . . . Hence incidental diversion or traffic from other lines as a conse-quence of removal of a bar to unob-structed flow of traffic will not outweigh public interest in the improve-ment of the service by removing the

In deciding that the deal is in the public interest, Dean Pound said, "What seems to me the crucial point is that Western's route from Los Angeles to Salt Lake is a vital part of a through transcontinental service of such importance to the traveling public that one of the objections most urged against merger is that it will afford superior service resulting in serious diversion of traffic from a competitor which now has an advantage by reason of the required change of planes at Salt Lake and consequent obstruction of convenient travel. That United and Western are and have been conducting a transcontinental service as a unit, so far as it can be achieved by two independent companies, is manifest. The route which they maintain in this way was the first transcontinental route to be established to and from Los Angeles That the change from one carrier to another, necessitating as things

abundantly shown. "It is so distinctly in the public in-terest to do away with this inconveni-ence to travelers by an important transcontinental route that any appropriate means of bringing about that result would seem justifiable . . . Another would seem justifiable . . . Another significant point is to be made with

are, a change of planes at Salt Lake,

subjects travelers to serious inconveni-

ence and discomfort and interferes seri-

ously with efficient operation of the

service carried on in conjunction is

respect to missed connections. Where there are two connecting lines independently operated this is likely to result in a disrupted through service. Where there is one line under one disrupted service is much less likely to happen . . . Making an exist-ing transcontinental route of such actual potential importance as efficient and convenient to the public as possible cannot but be in the public in-

The 41-page report called "academic and speculative" the testimony given by Dr. John Crane, of Northwestern University, who stated that United has attained such size that the merger will increase rather than diminish cost of operation. "It is fashionable of late in academic circles to regard bigness as an evil in itself, although as things are today bigness is a relative term," Dean Pound said. "His opinion does not take account of the improvements in man-agement and operation which are being developed continually by experience in a new field. I do not regard it as a ground for rejecting the opinions of those immediately engaged in the

Crane's e's "notions of zones of south lines, theoretically north and south lines, theoretically somewhat attractive, seems to be practically unworkable." he said, polytting out that north-south routes are reaching "out to the side" and paralleling transcontinentals as far as they can. "Merger of some of them with eastwest lines is likely to prove economically expedient, if not necessary." he said.

On the question of monopoly, the report stated that domination of a whole region is not possible as to the Pacific coast, where three other transcontinentals can at any time, if the business situation calls for it, be permitted to extend north or south. No large investments will be involved to deter them from applying, the report said. No substantial existing competition will be restrained by the merger. Dean Pound said, adding that the result will be very effective competition on trans-

be very effective competition on trans-continental business, requiring the best

continental business, requiring the best development of equipment, facilities, schedules and operation by all lines. The same holds true for possible or potential competition, he said.

"As things are, it is pretty clear that there is no actual competition between United and Western. The controlling reason why there is and can be no real competition between United and Western is that over 40% of the revenue of Western is derived from travel beyond Sait Lake to the eastward over United and Lake to the from Los Angeles to Sait Lake is a vital part of a transcontinental system and its position as a part of that sysvital part of a transcontinental system and its position as a part of that system is vital to its economic condition. Competition between United and Western is theoretical as things actually exist. They are substantially operated as one with respect to anything that could be regarded as competition." Discussing Jeopardy to another carrier, which was pointed out by TWA at the hearing, Dean Pound stated that "the proposed acquisition or merger

does not set up an unnecessary com-petition, but allows a competitor to make an improvement of an existing service distinctly desirable in the public interest." No monopoly will be created such as to jeopardize another carrier, he added

There is no reason for holding back any improvement which can be made in an established line of transcon-tinental importance," the report said. "It is expedient to allow the shortest route to be improved rather than to hold it back. If there is enough traffic to divide in view of the growth going on and to be expected, certainly there is no reason to hold back on any line in order to prevent some loss of traffic to another. One of the purposes in setting up competition and restricting monopoly is to stimulate improvements. Obviously saving of elapsed time is an improvement. This is the reason why United wishes to improve the situation at Salt Lake.

"There is substantially the same elapsed time between New York and Los Angeles between TWA and United-Western, but in the latter case there is the handicap in the change of planes at Salt Lake, and TWA seeks to have that handicap, which is a distinct dis-advantage to public travel, retained in order to enable it to retain an advantage which it has from a through line. tainly, United would not be allowed to object to the improved equipment which is being acquired by TWA being put in use before, under the conditions of manufacture, United could acquire the

ke."
The WAE minority stockholders had urged at the hearing that the cannot approve the UAL-WAE deal cause the parties lacked a definite plan-i.e.. UAL had not decided whether to i.e. UAL had not decided whether to merge or acquire the assets. However, Dean Pound said that "there is nothing in the statute nor in general legal principles to forbid approving the acquisition or merger and holding the matter upon the docket in order to determine which is the better of the two possible plans proposed, since either is consistent with the public interest and fair to the minority stockholders. . "He also concluded that the basis of exchange of stock is fair and maintains a reasonable balance bethe basis of exchange of stock is tain and maintains a reasonable balance between the claims of minority shareholders and avoldance of over-capitalization. Because all WAE employes are to be taken over by UAL. Dean Found said there could be no objection to the merger on that score.

On the question of whether inter-

On the question of whether interchange of equipment at Salt Lake would not serve the same purpose as merger, Dean Pound summed up by saying that interchange "depends upon the continuing possibility of an arrangement between two independent companies. The shortest transcontinental route for air travel ought not to be subjected to a risk of this sort. I conclude, therefore that the alternative of exchange of equipment, while in the public interest if no better plan were possible, will not accomplish all that the public interest requires and therefore affords no ground denying the application.

If the deal is approved, United will quire, in addition to WAE's San acquire, in addition to WAE's San Diego-Salt Lake route, the line from Salt Lake to Great Falls, Mont.

#### POGUE SEES NEW RATE QUESTIONS

Problem May Arise Concerning Mini-mum Mail Pay Required by Constitution, CAA General Counsel States

The remarkable improvement in the financial condition of the air transport industry indicates that "new and different problems may soon arise in connection with the fixing of air mail rates," according to L. Welch Pogue, general counsel of the Civil Aeronautics Au-

Speaking at the Air Law Symposium in New York on Mar. 6 on "Compensation for the Transportation of Mail by Air Under the Civil Aeronautics Pogue stated that a significant question which may arise concerns the minimum amount which is required by the Constitution to be paid for the air mail service performed by the carriers. In such a case, he explained, it is probable that evidence will be introduced relative to the percentage of property fairly allocable to air mail service.

The legal theory and technique of the CAA in the first air mail rate cases was evolved in the light of the peculiar problems of the carriers at that time, Pogue stated. "Since the passage of the Act in the summer of 1938-and, in some part, we hope, indirectly because the non-mail revenues of all carriers have shown a substantial increase, no longer can the industry as a whole be financially regarded as on the verge of ignominious burial in Potter's Field," he said. "On the other hand, although everyone interested in the industry cheers to the echo because of its recent financial sprint, the fact remains that in fairness to the public and under the Act the Authority has a duty not only to revise air mail rates where such action is warranted by evidence sub mitted in formal proceedings instituted by the carrier, but also to act upon its own initiative and itself to institute air mail rate proceedings where the facts indicate need for revision.

Thus, where the results of a carrier's operations suggest the possibility that an air mail rate is causing an unreasonable government contribution to its operating profit and has therefore become and unreasonable within the meaning of section 406 (a) and (b), the Authority upon its own motion must institute a formal rate proceeding for the purpose of revising such rate in accordance with the requirements of the Act. Obviously, the problem and issues involved in this type of rate proceeding will differ substantially from the problems of the rate proceedings of less,

than a year ago. On the question of what minimum amount is required to be paid by the Constitution, Pogue stated that "it would that evidence will be eem probable introduced relative to the percentage of property fairly allocable to the air mail service. To say that such an allocation is extremely difficult (it being hard to say that a certain percentage of an engine, or a propeller, or of a wing is allocable to the air mail service) and that it can never be more than an informed compromise between extremes, is no answer. Where a claim of protec-tion under the due process clause of the Constitution is involved, the collective judgment of the members of the Authority as experts is required upon all ques-

tions in issue."

A case involving the constitutional issue of what is the permissible minimum rate "injects us . . . into the turbulent question of the use of reproduction cost and prudent investment eviquetton cost and prudent investment evidence," Pogue said. He expressed the opinion that such evidence will have to be considered by the CAA, but added that the "nice question" remains as to whether or not it is entitled to "any appreciable amount of weight."

#### Claim Being Abandoned

Bremerton, Wash., this summer will abandon its claim as the largest city in the U. S. without an airport. Crews of WPA workers recently resumed work, suspended since early in 1938, on the clearing and leveling of a 230-acre landing field and construction of a modern hangar. Cost of airport construction is \$48,-574, all but \$5,000 coming from an original allocation of federal funds. Work, now half finished, is expected to be completed sometime in July. The hangar is being built with \$17,233 federal and \$11,192 county

#### American Airlines Orders 6 More DC-3's

Announcement of the purchase of six more Douglas Flagships was made March 19 by American Airlines. Four of the ships will be 21-passenger DC-3's and the other two will be 14-passenger DST Skysleepers.

The new order is in addition to the 26 Douglas transports ordered last year and some of which have been delivered since Jan. 1, 1940. (The table appearing on Page 6 of AMERICAN AVIATION for March 15 should be altered to include the latest order if it is being saved for reference-Ed.).





THE LODESTAR has spacious seating for 14 passengers. Newly designed equipment gives more space for stewardess. Ample headroom is provided.

# LODESTARS...



## Production on Schedule Deliveries on Schedule

"On time" schedules and "on time" deliveries of the new Lockheed Lodestar are now in progress. Take as an example the Lodestars ordered by Mid-Continent. They are now ready to fly the "Great Plains Route"...linking 12 important cities of the Midwest. The one above is shown emerging from final assembly some weeks ago. Lockheed production is geared to supply the increasing demand for this great new commercial airplane. Airline operators, and executives who desire information regarding this larger, more luxurious airplane, are invited to write the Lockheed Market Research Dept., Burbank, California, U.S.A.

Representatives Throughout the World

LOOK TO Lockheed FOR LEADERSHIP



#### "Our LOCKHEED is a good investment," says Earl B. Gilmore

When time flies too fast for time tables...when business executives must be in distant cities within a few hours...there is definite need for a fast Lockheed. Many progressive companies already know the time-saving and comfort advantages of these practical Lockheeds. They use their personalized airplanes to go and return as they please... to escape the handicaps of the highway... and for unusual prestige and entree.

No other company offers such a wide selection of two-engine airplanes so adaptable to executive needs...from the trim Lockheed 12 to the luxurious Lodestar...all perfectly designed for every business use.

EARL B. GILMORE president, Gilmore Oil Company says, "We have used company-owned airplanes for a good many years and have always found them to be a good investment. However, the two-engine Lockheed we now fly is the most satisfactory air transportation for executives that we have ever known."

LOOK TO Lockheld FOR LEADERSHIP

THE Lockhed Log

# THE Lodestar

## A spacious new LOCKHEED wins international acceptance

When operators check the cost per passenger mile of this fourteen passenger Lockheed, they say, "It's a new star in airline operations."

Not one famous engineering feature pioneered by Lockheed has been omitted on this larger airplane. Lockheed high performance and maneuverability...the ease of landing in small fields and the ability to speed up difficult schedules—all these profit-plus advantages are winning orders from domestic and foreign airlines.

Early deliveries will be made to Mid-Continent, Continental, Air France, Regie Air Afrique, and South African Airways.

The Lodestar is simply another part of the well-planned Lockheed program to supply operators everywhere, the *right* airplane for expanding airline operations.

BURBANK, CALIFORNIA, U.S.A.

LOOK TO Lockheld FOR LEADERSHIP



# LOCKHEED'S men from Missouri

We pay them to kick, if they can, on *everything* that goes into a Lockheed. Every year they scrape, stretch, compress and tear thousands of parts and materials to

prove their soundness ... before they are accepted for Lockheed production.

These abused parts are then subjected to

microscopic and photographic examination. Under magnifications of from four to two thousand times, Lockheed research men pry into the secrets of the crystalline structure of metal. Intergranular corrosion, depth of annodization, complete welding unions... every possible check of factors that contribute to air worthiness is made.

This constant scrutiny, carried to the extreme by Lockheed, is another reason why airline operators say—



Ordinary duraluminum screws, mounted in plastic material after severe strain tests, ready for examination in the Lockheed Metallograph shown above.

- Model for Model =

LOCKHEEDS carry greater pay loads at higher speeds . . . at lower costs!

32 WORLD AIRLINES FLY LOCKHEEDS

Battl App Se

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CCA Canadia panded its quarters in Fifth Ave announced Janas, prelicity dep offices adj

#### Battle Seen in AA's Application for Line Serving Mexico City

Development of a battle between the largest domestic airline and Pan American Airways, largest U. S. foreign operator, was foreseen Mar. 18 when American Airlines informed the CAA that it intends to file application for a route from Dallas-Ft. Worth and El Paso to Mexico City.

The eastern section of American's proposed route would operate from Dallas-Ft. Worth through Eagle Pass and Monterey to Mexico City. The western part would start at El Paso, joining the other section at Eagle Pass.

Immediately after informing the CAA of its intention, American asked leave to intervene in the Pan American hearing for a Los Angeles-Mexico City route on Mar. 21, and was represented by counsel at that proceeding.

American revealed that the Mexican

American revealed that the Mexican Department of Civil Aeronautics has granted it an international permit to transport passengers, property and other cago over the proposed route. In connection with the application, C. R. Smith, president of American, stated that Monterey, the second largest city in Mexico, will have air service for the first time.

Operation of the route by American would furnish competition to a Pan American line out of Los Angeles, and also with the connecting service of Braniff and Pan Am from Dallas-Ft. Worth to Mexico City.

# Janas, Bell, Elected CCA, Ltd., Directors

Sigmund Janas, president of Canadian Colonial Airways, Inc., of New York, and the president of Canadian Colonial Airways, Ltd., of Montreal, has been elected to the board of directors of the Canadian company. Russell D. Bell. Canadian financier and director of numerous large corporations including National Steel Car Corp. and Montreal Aircraft Industries Ltd., has also been elected a director of the Canadian company. Public offering of a new issue of 50,000

Public offering of a new issue of 50,000 mo par common shares of Canadian Colonial Airways Ltd. has been made at 5 per share by Savard. Hodgson & Co.. Ltd., and Greenshields & Co. Inc., all of Montreal. Mr. Bell, the new director, is associated with Greenshields & Co.

UAL Apprentice Program

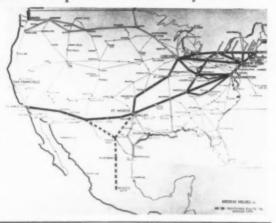
United Air Lines has inaugurated a w apprentice program for mechanics Chevenne. Cheyenne. Joe Leonard, personnel arector at the Cheyenne overhaul and epair base, is in charge. Young men between 18 and 25, who are high school graduates with a minimum of one year's training at a government approved aviation school, will be given a opportunity to serve an apprentice which will qualify them for posins as airplane and engine mechanics r line service. The training at the Cheyenne base will take three years to omplete. Apprentices under this program will be paid during the entire hree years, starting at forty cents an our and ranging upward to seventy ents an hour.

#### CCA Expands Office Space

Canadian Colonial Airways has expanded its office space at general head-quarters in the International Bldg., 630 Fifth Ave., New York City, it was amounced on Mar. 4 by Sigmund lans, president. CCA's sales and publicity departments will occupy three offices adjacent to present quarters on the 21st floor.

#### American's Proposed Mexico City Route

Map shows present routes of American Airlines and the "Y" route it proposes to operate to Mexico City from El Paso and Ft. Worth. The intention to file an application has just been received by the CAA.



# INLAND PROMOTIONS Bob Garrett Made Flight Supervisor By Landes

Four promotions and transfers have been announced by Marvin Landes, vice-president of Inland Airlines. Capt. Herb Holloway, who has been

Capt. Herb Holloway, who has been supervisor of flight operations for the past four months, has returned to his post as pilot and Capt. Bob Garrett has been appointed to take his place as flight supervisor.

G. B. Vanwagenem, chief dispatcher, has been named assistant flight supervisor in Cheyenne. The new chief dispatcher is P. J. "Pete" Anderson, who has served as passenger agent at Cheyenne. Anderson's position will be filled by an employe from some point on the system.

#### Braniff Elects Smith, Thurman Directors

Braniff Airways, Inc. has elected two new directors, Robert J. Smith, vice president in charge of operations, and Hal C. Thurman, general counsel, Other directors are T. E. Braniff, president; Charles E. Beard, vice president-traffic, and C. G. Adams, secretary-treasurer.

#### Clemson Heads New TWA Traffic Region

Establishment of a new regional traffic area for Transcontinental &

Western Air, Inc., has been announced by V. P. Conroy, vice-president in charge of traffic and sales. John Clemson, who o has been district traffic manager in New York since September, 1938, will be

manager of the new region with headquarters in Pittsburgh.

Clemson's territory will include Harrisburg and western Pennsylvania, Columbus and Dayton, Ohio, and Washington, D. C. The Pittsburgh metropolitan area will continue to be served directly by Robert Montgomery, district traffic manager for Pittsburgh. Clemson has been with TWA since 1929 and was previously in railroad transportation.

#### TWA Seeks Three Lines, Adding 2,308 New Miles to System

An expansion program which would increase by 2,308 miles the system now operated by TWA was inaugurated during the week of Mar. 16 with the filing of new route applications by the company.

One application transmitted to the CAA seeks a line from Kansas City to Denver via Topeka and Salina, Kans., a distance of 559 miles. Another route sought is between Amarillo and Houston via Lubbock, Abilene and Austin, with a branch from Abilene into Ft. Worth via Dallas, an overall distance of 766 miles.

TWA has also indicated that it will file application for permission to operate between St. Louis and Philadelphia via Evansville, Louisville, Cincinnati, Parkersburg and Washington, 983 miles.

All three routes are in controversial territory and are being sought by other carriers. Eastern Air Lines and Missouri Central have applied for St. Louis-Washington; Continental, United, Braniff and Mid-Continent want to operate Denver-Kansas City, while Essair, Inc., and Braniff seek routes in the vicinity of the Amarillo-Houston-Ft. Worth line. The latter route would also compete with American Airlines.

Jack Frye, president of TWA, pointed out that the St. Louis-Philadelphia line, which will be asked as an extension of the company's AM2, will link Washington for the first time with a through route to the middle west and Pacific coast. On Denver-Kansas City, he stated that the route would give Denver its quickest passenger and mail service to the east. The Texas line "will not-only provide local service between points within the state, but will tie in with our coast-to-coast system," he said. TWA plans use of DC-3 equipment on the routes.

# British to Resume Trans-Atlantic Hops

British Overseas Airways Corporation, the new company which has absorbed Imperial and British Airways, will resume Atlantic test flights this spring, according to British aeronautical magazines. Three flying boats will be used instead of two, the Cabot and Caribou which were used last year, and the Australia, which was intended for Tasman Empire Airways. Refueling in the air will probably be practiced again. Three larger flying boats of the so-called "G" class which were to have been placed in regular trans-Atlantic operations this year, will probably be taken over by the government. Refueling operations would not be necessary for these larger ships.

#### Two New American Vice Presidents



American Airlines. Inc., has announced the election of two new regional vice presidents, Reed G. Landis (left), and Hollis R. Thompson (right) who will have headquarters in Chicago and Los Angeles respectively. Mr. Landis' election was reported in the last issue. Mr. Thompson



son leaves his position as City Manager of Berkeley, Calif., to join American. He has been active in state and municipal affairs in California and is past president and director of the International City Manager's Association.

#### LOW UAL FARE

Cheaper Rate to Apply in Boeings on West Coast

A lower fare for transportation between Los Angeles and San Francisco in Boeing 247-D equipment than in Douglas DC-3's has been proposed by United Air Lines in tariffs filed recently with the CAA.

Under the plan effective Apr. 10, United will inaugurate a fare of \$13.90 for San Francisco-Los Angeles on Boeings making local stops. Present fare of \$18.95 will continue on nonstop Douglas flights. The reduction on the Boeings, which amounts to approximately 26%, will bring fares to the level of first-class rail travel.

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#### Fortnightly Review

(Continued from page 1)

training if the pilots could provide a definite and tangible public service. And that public service could be a much greater network of airlines, especially feeder lines which would not represent enormous investments

for anyone.

In this manner the pilots would get in their daily flying and they might learn something about instrument flying in a realistic way only frequently obtained in the Army or the Navy. It is perfectly admissable, of course, that airline pilots may not make good tactical pilots, but if the present war is any criterion, the need is for pilots of the calibre of trained men who fly the domestic airlines today—who have to meet schedules every day in all kinds of weather and who have to know how to fly in something of a straight line. In other words, to know how to keep from getting lost.

With all of the public investment which is being placed into pilot training today, it would seem that the expansion of air transport lines would be a still greater investment in order to keep pilots at work. Measured against the present and future cost of keeping pilots in training, the added investment in additional airlines would be negligible. And whatever additional cost would be incurred would most certainly be erased by benefits in public service—in bringing air transportation to scores and

hundreds of additional communities in the United States.

The present system is just as illogical as it would be to train 500 baseball players at great expense and then keep them playing practice games among themselves at some hide-out far from public gaze just to keep them in training. The baseball players would be much better off playing games for public audiences. The same holds for pilots. The national defense is benefited just that much more if the training maintenance can

be carried on concurrently with providing public service.

We submit to the Civil Aeronautics Authority that it look beyond the mere commercial economics of air transportation and explore the national defense aspects of airline services. The Post Office Department is charged with the dispatching of mails by the fastest means. It has shown many times its desire to use air service. It has been aware of the national defense values in air mail transportation. Here is one argument alone, if there were no other justifications, for the early expansion of air transportation in the United States.

#### 16.7 M.P.H.

THE American Association of Railroads recently announced to the press with obvious pride that the railroads of the United States in 1939 attained a new high record in the average speed of freight trains. This average speed, the association reported, was 62 per cent higher than in 1920. Now a 62% gain in the course of twenty years is nothing to treat lightly but the association neglected to state just what is the average speed of freight trains and as any mathematician knows it is easily possible to conjure up fantastically beautiful statistical pictures by working only in percentages. After all, an increase of from one mile an hour to two miles an hour is a 100% increase.

So AMERICAN AVIATION queried the American Association of Railroads about the actual average speed of freight trains and was informed that in 1920 this average speed was 10.3 miles per hour and that in 1939

the average speed had risen to 16.7 miles per hour, accounting for the very substantial percentage of increase. All of which reminds us of a editorial we published some months back entitled "Mobile Storage."

The average railroad freight train speed is timely in view of the explorations being conducted by airline people into the realm of air freight Mr. C. R. Smith's concise and lucid outline reported in this issue of what his company is doing in the way of studies is very much apropos If the airplane can transport passengers four times faster than the railroads, it would seem logical that air freight could be carried at least four times faster than on the rails which would mean 68 miles per hour average. But actually there is no reason why freight cannot be moved by air at an average speed of 130 to 150 miles per hour with special cargos moving at 180 miles per hour on the average. What a boon to American commerce this speed of shipments would mean!

#### Daytona Beach-Jacksonville Link Awarded to National: EAL Denied

The link long sought by National Airlines between Daytona Beach and Jackson ville, enabling it to connect its two routes, was granted by the Civil Aeronautic Authority on Mar. 22 as an extension of AM31, Daytona Beach-Tampa-Miami. The CAA also denied the applications of Eastern Air Lines for Jacksonville-Tampa-Miami and Tallahassee-Ocala-Orlando routes.

In issuing its decision, the CAA did not entirely follow the proposed report of Examiners C. Edward Leasure and Robert J. Bartoo, which recommended Orlando-Jacksonville for NAL, rather than Daytona Beach-Jacksonville. Commenting on this, the decision stated: "It does not appear that substantial local airline traffic presently originates at Daytona Beach or that it may be expected." to do so within a reasonable period of time in the future. However, authoriz Beach was not sought in the present proceeding, and it would be impossible; give consideration to the elimination of the stop at Dayton Beach without du notice to the public and interested parties and a public hearing with respect to the issues involved." the issues involved.

NAL's new route will provide one-company Jacksonville-Tampa schedules. The CAA stated that there is substantial traffic between those points but that "no adequate airline service is maintained between them." Present service is over NAL from Tampa to Orlando or Daytona Beach where connection is made with EAL and the decision explained that NAL's schedules "must necessarily" be adapted to EAL's. It also discussed numerous connection failures and stated that service would be greatly improved with NAL operating into Jacksonville.

"Even if both applicants were authorized to operate between Jacksonville and Tampa it seems clear that the net result would be seriously disadvantageous to the operations of National." the CAA said. "Although the proposed operation of National would be adequate for serving the local traffic between Jacksonville and Tampa, the major part thereof would be attracted by the more direct service and larger equipment which Eastern would provide. National would, of course, attract even a lesser proportion of the traffic originating at points beyond Jacksonville with Eastern operating directly from such points through to Tampa. "Although we find that through air transportation is required between Jacksonville and Tampa, and that such need would be supplied by the proposed operation of Eastern, it is clear, since such need would also be supplied by either of the proposed operations of National. On the other hand, no contention that the proposed operations of National. On the other hand, no contention that the proposed operations of National. On the other hand, no contention that the proposed operations of National and Tampa, but also from Tampa into Milami. In the proposed operation of Eastern are outweighed by the effect which it would have upon the operations of National. On the other hand, no contention that the proposed operations of National and Tampa, but also from Tampa into Milami. In the proposed operation of fully loaded flights from Newark to Milami could be completed. However, this Incr

National had requested either Jacksonville-Lakeland via Gainesville and Ocala or Jacksonville-Lakeland via Daytona Beach and Orlando. Gainesville and Ocala the CAA said, will not develop substantial airline traffic, and added that the

airway via Daytona Beach is equipped for night and instrument flight.

In finding NAL fit, willing and able to operate the extension, the CAA stated
"It is pertinent to note that operation by National over the proposed Dayton Beach-Jacksonville route should enable it to effect certain economies in operation expenses, and the improved service between Tampa and Jacksonville

yield a higher revenue per mile than that previously realized on that part of route 31 extending between Tampa and Daytona Beach."

In denying EAL's application for that portion of the route between Tampa and Miami, the decision explained that such operation would divert "a substantial part" of NAL's traffic between those points. Passengers from EAL's AM40. Tampa-Memphis, Tallahassee-Atlanta, to Miami could be adequately served by improved connections with NAL at Tampa, it added. A Tampa-Miami service by EAL "would seriously impair the ability of National to conduct an economical and efficient operation," the Authority said. Improved connections, together with other factors, also make EAL's proposed Tallahassee-Orlando service unnecessary.

Larry Larsen Dies

Orville K. "Larry" Larsen, 34, well known Alaskan flyer and operator of Anchorage, Alaska, died March 21 in an airplane accident. His flying school was to begin flight instructions shortly under the civilian pilot training school. Dis-tributor in Alaska for Piper Cubs, Lar-sen flew on numerous mercy missions, was well known and liked by the flying fraternity. He visited Washington a few

New ATA Booklet

The Air Transport Association of which Col. Edgar S. Gorrell is president, has published Volume II of "Little has published Volume II of "I Known Facts," a brochure about scheduled air transport industry. More comprehensive than the first eddition Volume II contains numerous excellent charts and statistical tables and highly recommended as educations literature. The brochure is receiving wide distribution.

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THE FOREIGN PLANE SALE CONTROVERSY has been caught in a political whirlpool from which it will not be quickly extricated. When Congress decides to investigate despite repeated assurances from Cabinet officers that all goes well, there is a joker somewhere. In this case there are several. Release of the Curtiss P-40 for sale to the Allies precipitated the issue rather than initiating it. Highly complicated, the basic factors are not so generally known or understood as the more superficial daily developments.

Congress wants information on three main points: whether foreign airplane

Congress wants information on three main points: whether foreign airplane sales have increased prices the government must pay; whether national defense is being delayed by foreign business; and whether foreign countries are buying freely our military secrets. All these questions have been answered already by top-ranking administration officials: prices to the government have not been affected at all by foreign contracts since Army and Navy orders were placed for the most part before the influx of Allied buying. Both domestic commercial and military aircraft orders take precedence over foreign orders assuring first attention to the national defense program. And military secrets are jealously guarded by the War Department. What, then, is stirring up all the row?

The fact is that this question of airplane sales abroad is being seized upon by the isolationist bloc as an opportunity to reiterate isolationist foreign policy. Although this group in Congress lost out in the fight over revision of the neutrality act, it has been wait-

The fact is that this question of airplane sales abroad is being seized upon by the isolationist bloc as an opportunity to reiterate isolationist foreign policy. Although this group in Congress lost out in the fight over revision of the neutrality act, it has been waiting for just such a chance to propagandize again against the sales of any kinds of arms and munitions to warring nations. Thus it is significant that Senator LaFollette sponsors the Senate resolution to investigate. For young "Bob," like his famous father, is a passionate isolationist. The subject is choice for political exploitation.

Another political angle of a different sort exists downtown where Secretary Morganthau has incurred the jealousy and antagonism of the War Department. Rumblings of this disagreement reached Capitol Hill and stimulated interest in uncovering all the details. Army officials believe the Treasury Secretary inexperienced in the technical matter of military requirements and equipment. Consequently, they are inclined to resent his prominence in the aircraft picture. They also fear he is ambitious to absorb all Army and Navy procurement activities into his own procurement division of the Treasury. Although there has been no open break, the situation has been growing more tense. It is even rumored that the White House has been required on occasion to intervene.

There are of course a number of members of Congress who are sincerely interested in simply learning the facts. Since they do not follow every development closely, they are not very familiar with current departmental policy and pro-

There are of course a number of members of Congress who are sincerely interested in simply learning the facts. Since they do not follow every development closely, they are not very familiar with current departmental policy and procedure in the matter. For instance, it is not generally realized that in releasing the P-40, the War Department really releases an "export version" of the P-40—basically the same ship, but with all military secrets removed. Then too there is more sentiment than has been publicly expressed to let the Allies buy whatever they may need, including the most modern of all lines of military equipment. Many Congressmen say among themselves that it is better to sell supplies now than to send troops later.

Whatever the final outcome may be, there has so far developed not a single piece of evidence which reflects to the discredit of the aircraft industry. Indeed, the industry might be wise to welcome these investigations which can only prove to the general public a record of efficient and prosperous production on fair terms.

THE NAVAL EXPANSION BILL passed the House recently by a heavy majority after only one day's debate. One important aviation amendment, however, was initiated and passed on the floor: instead of authorizing a Naval air force of a minimum of 4500 aircraft, "not more than 4500" was substituted. Similarly, the lighter-than-air craft authorization was changed to "not exceeding 12." Vigorous attempts to strike out the provision for 3 additional aircraft carriers were defeated.

teated.

The new bill which carries no money—funds must be provided in an appropriation bill later—allows the purchase of 1011 new planes and 4 new blimps at an estimated cost of \$99,152,270. These will be needed to complement the surface fleet which is also largely expanded under this bill, and to augment the Naval pilot training program. The Navy now has 2050 planes.

The bill has yet to be acted on by the Senate.

\* \* \* \* \*

THE WEATHER BUREAU picked up \$70,000 from the Senate Appropriations Committee for air navigation aids denied by the House. Most of this sum—\$50,000—goes for commercial airways meteorological service. The Bureau is still disappointed, however, as a \$100,000 project was planned. The additional \$20,000 will increase the amount for radio stations to \$75,000. These figures are subject to further Congressional action but according to present indications have a fair chance of approval.

Boeing Not to Move
Boeing Aircraft Corp.. Seattle, has
denied rumors persistent in southern
California that it would move its plant
or establish a branch factory.

Re-Appoint Johnson

D. L. Johnson has been re-named for the second year chairman of the aviation committee of the Ft. Worth, Texas, Chamber of Commerce.

#### Aero Library

UP AND AT EM by Colonel Harold E. Hartney (Stackpole Sons). Many books have been written about the pursuit pilots of the first World War, but none with as excellent descriptive color and historical accuracy as this recently published story by Colonel Harold E. Hartney, commanding officer of the First Pursuit Group of the American Air Service.

Harold Hartney, who is known wherever senior pilots gather and whose reputation as a combat pilot and leader is familiar to embryo men with wings, has told the story of the squadrons composing his group, of their triumphs and their disappointments.

Throughout the recital the Colonel sounds a note of warning that the United States shall not be caught napping again should the need for war service arise. He pulls no punches in his criticism of delay and discouragement in the procurement program of the earlier World War, and shows the way to a successful policy of adequate preparedness.

"Up and at 'Em" is more than an

"Up and at 'Em" is more than an autobiography, more than a history of pursuit squadrons, more than a warning to America. It's an epic of the western front and a tribute to the men who fought there, and it's a "must" book on any airman's shelf.

#### United Aircraft Booklet

United Aircraft Corp., East Hartford, Conn., has issued an attractive two-color booklet entitled ""Wherever Man Flies" aimed "to give a broader understanding of the vital and permanent force that the aviation industry is exerting on American life." It describes the growth of aviation, the three divisions of United Aircraft, and is extensively illustrated with drawings and halftones.

#### NLRB Sets Election

On the basis of an all-party agreement, the NLRB on Mar. 2 announced that a secret ballot election would be held within 30 days among hourly paid employes of Hall-Aluminum Aircraft Corp. engaged in production and maintenance work at its Bristol, Pa., plant to determine whether they desire to be represented for the purpose of collective bargaining by International Association of Machinists (AF of L), by Local No. 479, UAWA (CIO), or by neither.

Auxiliary Field for Detachment

A new auxiliary field for the Army Air Corps Training Detachment at Glendale, Cal., has been put into use by Grand Central Flying School at Grand Central Air Terminal, according to a recent Air Corps announcement. The field, located near Newhall, Cal., is 4,000 by 2,700 ft. and is located a few miles northwest of Grand Central terminal.

#### C. H. MONTEITH SUICIDE

Former Boeing Chief Engineer Ends Life in Seattle

Charles H. Monteith, 48, shot and killed himself in bed at his home in Seattle, March 16. Former vice-president and chief engineer of Boeing Aircraft Corp., Mr. Monteith was one of the most widely known aeronautical engineers in the country. He left the Boeing company several years ago on indefinite leave of absence and later severed his connections with the concern

cern.

An Army Air Corps flying instructor during the World War, he remained in service until 1925. He was the author of "Simple Aerodynamics of the Airplane." widely used as a textbook. He attended Washington University at St. Louis and the Massachusetts Institute of Technology. At Boeing he was instrumental in developing the Boeing 247 transport which pioneered twinengined airplane service, and played a leading part in developing other notable planes. Besides his widow he is survived by his mother, Mrs. K. L. Monteith, two brothers. James and Alex Monteith, and a sister, Mrs. Byron fuffman, all of St. Louis. Press reports indicated that he was threatened with blindness.

#### CARL SWANSTROM DIES

Was President of Elastic Stop Nut Corporation

Carl A. Swanstrom, 44, president and director of the Elastic Stop Nut Corporation of Elizabeth, N. J., and director of American Gas Accumulator Company, died March 12 after an extended illness. Born in Sweden, Mr. Swanstrom came to this country as a young man and after an association with the steel industry he developed the elastic stop nut, a self-locking nut used extensively in the aircraft industry. He successfully promoted his company during depression years. Surviving are his wife, Mrs. Nancy Wennlund Swanstrom, two sons, and a brother. His home was at 20 Coolidge Road, Maplewood, N. J.

#### **Obituary**

PAUL E. MAXWELL. 56, for many years foreman of the maintenance dept. of Lockheed Aircraft Corp., Burbank, died of heart ailment Feb. 28 at Glendale. Calif.

FLIGHT COMDR. ARTHUR HUGH SANDWELL, writer and lecturer on aviation subjects, died in Montreal at the age of 47. Born in New Britain, Conn., he was educated in England and joined the staff of Flight in 1911. He went to Canada in 1912 and joined the staff of The Montreal Herald and later joined The Montreal Star. Following the war in which he served with the Royal Navy Air Service, he engaged in flying and in 1929 initiated the weekly column in aviation. "What's Up in the Air" for The Montreal Star which continued until his death.

#### N. Y. Reserve Election

Col. B. F. Castle has been elected president of the 2nd Corps Area Dept. of the Air Reserve Association at the annual meeting in New York. Other officers are: 1st V. F., Major Malcolm C. Durbin; 2nd V. P., Major Malcolm G. Spooner; Treasurer, Lieut, Carl G. Alberi; Secretary, Lieut, Don D. Casclo. The following officers form the new executive committee: Col. G. W. Rich, Major Howard A. Scholle, Capt, Harvey M. Cronk, Capt, James G. Fernald, Lieut, George Samec.

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#### AIR CARRIER RECORD

(C. A. A. Applications, Hearings, Dockets)

Twin Cities-Kansas City Recommended

CAA Examiner F. W. Brown on Mar. 16 recommended award of a mail-passengerproperty route to Mid-Continent Airlines between Twin Cities-Kansas City and Des Moines-St. Louis, Complete story elsewhere.

Red Bluff Stop for UAL Favored; Others Denied
A stop at Red Bluff, Calif, on United Air Lines' AM11, but denial of stops
at Chico, Stockton, Marysville, Modesto and Merced, were recommendations in
a Mar. 14 proposed report of CAA Examiners C. Edward Leasure and Thomas L. Complete story elsewhere,

Boston-Maine Asks Mail Rate Reconsideration

Boston-Maine airways has filed a petition with the CAA asking oral argument and reconsideration of its recent air mail rate decision.

PCA Amends Atlantic City Application
Pennsylvana-Central Airlines on Mar. 15 amended its application for extension of AM34 from Baltimore to Atlantic City to Include Atlantic City to
Camden. The hearing, originally scheduled for Mar. 18, is to be held Apr. 1.

TWA-Marquette Hearing

Hearing was held Mar. 12-15 on the question of the citizenship of Marquette
Airlines, and on TWA's application for permission to purchase the company. Complete story elsewhere.

Approval of UAL-WAE Merger Recommended

In a proposed report issued Mar. 14, CAA Examiner Roscoe Pound recommended approval of United Air Lines' application to merge with or purchase the assets of Western Air Express, Complete story elsewhere.

Braniff Mail Hearing

Hearing was held Mar. 18-19 on request of Braniff Airways for a certificate amendment permitting mail transportation, Houston-San Antonio and Houston-Corpus Christi. The post office department supported Braniff's application while Eastern Air Lines appeared as intervener. Complete story elsewhere.

Pan Am Oral Argument

Authority members on Mar. 14 heard oral arguments over the advisory report issued by CAA Examiners Francis W. Brown and Thomas L. Wrenn on application of Pan American Airways Co. (Nev.) for a certificate from San Francisco to Aukland, New Zealand via Los Angeles, Honolulu, Canton Island and Noumea. Complete story elsewhere.

Travel Card Investigation

CAA investigation into the air travel card plan, government travel discount provisions and other special travel discounts opened Mar. 18. Story elsewhere.

American to Ask Mexico City Line
American Airlines has indicated its intention to file application for a route
from Dallas-Ft. Worth and El Paso to Mexico City. Complete story elsewhere.

TWA Seeks 3 New Routes
Routes from Kansas City to Denver. St. Louis to Philadelphia and Amarillo-Houston-Ft. Worth are being sought by TWA. Complete story elsewhere.

Pan Am "Grandfather" Certificates Recommended
A proposed report of CAA Examiner F. A. Law, Jr., on Mar. 19 recommended seven
"grandfather" mail-passenger-property certificates and three passenger-property
permits for Pan American Airways in Central and South America. Complete story elsewhere.

Asks du Pont Directorate Approval

Application has been filed with the CAA for approval of interlocking directorates involving Richard du Pont and All American Aviation, Inc.

Calendar of Hearings

Apr. 1—Pennsylvania-Central Airlines, extension of AM34 to furnish Baltimore-Atlantic City and Atlantic City-Camden service. Apr. 1—Continental Air Lines, determination of fair and reasonable air mail

Apr. 10-Pan American Airways, application for setting of mail rate on third

Apr. 15—American Airlines, determination of fair and reasonable air mail rates.

Apr. 15—Braniff Airways, Continental, Essair, A. J. Burke, on Braniff's San

Antonio-El Paso via Bracketsville, Dryden and Marfa, and Denver-Laredo via

Colorado Springs, Pueblo, Amarillo, Lubbock, Big Spring, San Angelo and San

Antonio; CAL's El Paso-San Antonio via Marfa, Alpine and Uvalde, and Pueblo
El Paso via Dalhart, Amarillo, Lubbock, Roswell, Hobbs and Carlsbad; Essair's Amarillo-Houston via Lubbock, Big Spring, San Angelo and Austin, and A. J. Burke's San Antonio-Laredo.

Apr. 22-Eastern Air Lines, Missouri-Central, on routes from St. Louis to Wash-

ington via Evansville and Louisville.

Apr. 22—New York and Bermudian Air Line, route from Newark to Bermuda.

May 13—Continental Air Lines, United, Braniff and Mid-Continent, on CAL's application for Denver-Kansas City via Salina and Topeka; UAL's Des Moines-Denver via Kansas City, Topeka and Salina; Braniff's Denver-Kansas City, and MCA's Denver-Kansas City via Salina and Topeka.

May 13—Eastern Air Lines, determination of fair and reasonable air mail rates.

May 27—American Airlines, on route from Oklahoma City to San Diego.

June 3—Boston-Maine Airways, extension of AM27 from Bangor to Moncton.

June 10-Chicago & Southern Air Lines, determination of fair and reasonable

air mail rates.

June 17—United Air Lines, stops at Camden and Youngstown on AMI.

June 24—Delta Air Corp., determination of fair and reasonable air mail rates.

June 24—Oregon Airways, route serving Portland, Salem, Albany, Eugene, North

Bend, Marshfield. Bend and Klamath Falls.

#### Roosevelt Field Elects

At the annual meeting of the stock holders of Roosevelt Field, Inc., the following directors were re-elected: C. Coburn Darling, Gerald E. Donovan, W. D. Guthrie, William Barciay Harding, Albert P. Loening, Grover Loening, William Dewey Loucks, Seth Low. Wil-liam B. Scarborough, and B. A. Tomp-

#### United Takes Hangar

The first of three new hangars at La-Guardia Field. New York, was dedicated March 17 by Mayor F. H. LaGuardia and was turned over to United Air Lines which has a ten year lease and option for renewal. Hangar No. 4 for TWA which was damaged by fire March 5 will be rebuilt by June.

#### PAA CERTIFICATES ARE RECOMMENDED

Examiner's Report Ašks "Grand-father" Permits on South American Routes

Pan American Airways. Inc., is entitled to "grandfather" mail-passengerproperty certificates on seven routes and passenger-property permits on three lines in Central and South America, according to a proposed report released Mar. 19 by CAA Examiner F. A. Law.

Jr.
The mail - passenger - property routes are: (1) from Miami via Antilla. Port au Prince. San Pedro de Macoris, San Juan. St. Thomas, St. Johns, Pointe a Pitre. Fort de France. Port of Spain, Para-maribo. Cayenne. Belem, Sao Luiz. maribo. Cayenne. Belem, Sao Luiz. Camocim, Natal, Recife, San Salvador. Victoria, Rio de Janeiro, Porto Alegre. Montevideo, and the terminal Buenos Aires with an alternate route branching Aires, with an afternate route branching from Rio through Sao Paulo and Asun-cion to Buenos Aires; (2) Miami to Merida via Havana; (3) Miami via Cien-fuegos and Kingston to Cristobal with a branch from Kingston to Barranquilla: (4) Miami to Nassau; (5) Brownsville, via Tampico, Mexico City, Tapachula. Guatemala City, San Salvador, Teguci-galpa, Managua, San Jose, David, Ancon. to Cristobal: (6) Cristobal, via Barto Cristobal; (6) Cristobal, via Bar-ranquilla, Maracalbo, Coro, La Gualra, Guanta, and Caripito to Port of Spain, and (7) either between Cristobal and Turbo, or between Turbo and the other terminal and intermediate points in

passenger-property routes are: Port au Prince to Kingston through the intermediate point Santiago, as a connecting operation between the routes necting operation between the routes in (1) and (3); between Luiz Correa. Areia Branca. Maceio, Aracaju. Cara-vellas, Curityba. and Iguassu. all in Brazil, and other terminal and inter-mediate points in (1); between Cat Cay, British West Indies, and the terminals

"No certificate adhering inflexibly to the routes as established and authorized under the mail contracts would represent a reasonable sequence of terminal and intermediate points from an operating standpoint, nor is it likely that mail rates conveniently could be made to conform to them, or the revenues and expenses of operation so divided." Examiner Law said, "It is also important to note that, except for connection over parts of FAM 5 and 6. FAM 10 does not contact the territory of the United States or of its possessions. A more practical continuity of service would be provided for by routes starting in the United States or its possessions and proceeding thence with unbroken transportation effort to the ultimate destination, with such branches as proper and continuous service in the transportation of mail passengers and property may require."

The principal issue in the case, Law said, is as to the practicability of the designation of terminal and intermediate points on the routes insofar as the operation takes place outside U. S. terri-Pan Am had stated that it serves trade routes rather than fixed points, and that the precise definition of the routes by naming points is unnecessary.

However, Law stated that "to execute the basic intent of the Act requires the designation of terminal and intermediate points with sufficient particularity to define the points or areas which shall continue to receive the postal service covered by the application under the grandfather clause. The designation of contract points must, therefore, be regarded as necessary, as indeed such designation has been practicable in the

#### MCA Lodestars Ready Apr. 15

Mid-Continent Airlines expects to begin operating 14-passenger Lockheed Lodestars by Apr. 15, Thomas Fortune Ryan 3rd, president, announced on Mar.

1. MCA has three of the new Lockheed models on order.



Spring Brings MORE SERVICE

#### 4 DAILY TRANSCONTINENTAL **FLIGHTS**

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For example, FOURTEEN TWA flights each way every day, New York—Pittsburgh! Five each way every day Chicago—Kansas City, and Kansas City — St. Louis. Seven every day, Chicago—Pittsburgh Pittsburgh.

#### ADDITIONAL SERVICE TO WASHINGTON AND NEW YORK

New schedule provides early morning flight to New York, permitting full half businessday with return before midnight. Provides new early morning (10:30) arrival in Washington—most frequent service, Chicago-Washington.



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#### **Twin Cities-Kansas City Route Recommended for Mid-Continent**

Examiner's Report Also Favors Des Moines-St. Louis Line for MCA; Northwest, Braniff Applications Denied

Recommendation that Mid-Continent Airlines be awarded a mail-passenger-property route between Minneapolis-St. Paul and Kansas City via Mason City and Des Moines, and between Des Moines and St. Louis via Ottumwa, Ia., and Quincy, Ill., was contained in proposed report issued Mar. 16 by CAA Examiner Francis W. Brown.

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It was also recommended that the applications of Northwest Airlines and Braniff Airways for routes in the same general territory be denied, although Examiner Brown stated that those companies would be fit, willing and able o operate.

The conclusion with respect to Twin Cities-Kansas City should be without prejudice to the application of United Air Lines for a certificate which would authorize a through east-west service between Des Moines and Denver via Kansas City, Brown said.

The report emphasized that one of the main reasons for finding Twin Cities-Kansas City in the public interest was the furnishing of a needed north-south service to Des Moines. It also stated that a finding of public con-venience and necessity for a Twin Gities-St. Louis operation would not be ustified except as an adjunct of the Twin Cities-Kansas City route.

"Mid-Continent is a feeder line serv-ing cities in the mid-west and affording onnections for all of the transcon-tinental trunk lines," the 55-page re-port noted. "As such it fulfills an im-portant function in the air transport which should be encouraged The Act instructs the Authority to so regulate the air transport industry as therein. In the Mid-Continent rate case therein. In the Mid-Continent rate case the Authority stated: 'The primary cause of the large operating losses which the petitioner has sustained in the past, and the main problem with which its management is still faced, is the deficiency of revenue.'

still faced, is the deficiency of revenue."

"The award of the Twin Cities-Kansas City route to Braniff would result in diverting a substantial volume of traffic from Mid-Continent's present route and would provide a competing service between two of its important sources of traffic. The loss of traffic which would result in further losses in revenue."

Mid-Continent had estimated that it might lose as high as 80% of its present Twin Cities-Kansas City business if the new route were awarded to another carrier.

"Even though these losses may be exaggerated, it is clear that any loss of

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Fly above slow surface travel...and save 80% of your travel time! Have more leisure for business or pleasure... more time and energy to use as you choose! You'll see why it pays in many ways to fly . . .

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traffic by Mid-Continent would make that carrier more dependent on government support and jeopardize the service it now renders to the intermediate points on its route." Brown said. "On the other hand, the improved service which Mid-Continent would be in a static transition of the continent would be in a which Mid-Continent would be in a position to provide between Twin Citles and Kansas City and the addition of Des Moines and its adjacent territory as a source of traffic should provide Mid-Continent with additional revenue which it needs.

as a source of trainc should provide Mid-Continent with additional revenue which it needs.

"As another factor affecting its economic position Mid-Continent contends that the award of the new routes to it would result in substantially increasing its route mileage and revenue miles, thus permitting it to effect economies in its system operations. . . The efficiency of its operation would also be materially increased."

Braniff and Mid-Continent agreed that Des-Moines-St. Louis should be awarded to the operator of the Twin Cities-Kansas City route. Brown explained, adding that an "uneconomic duplication" of station expenses at Des Moines would result if two carriers were given certificates.

Braniff maintained at the hearing

Braniff maintained at the hearing that it should be awarded Twin Citie Kansas City because it could offer through service to points south of Kansas City. "The advantage of a through service by a single plane be-tween two given points must be recog-nized," the report said. "However, it is obvious that it would be a physical impossibility to provide through service to all points in the United States."

Braniff had also stated that even if one-plane service was not offered. single-company operation was preferable to two-company service.

"This contention appears to have little merit," the report continued. "Sound, honest, economical and efficient management and the desire to obtain the maximum traffic afforded by the territory served are considerations which will compel the maintenance of convenient schedules and connections if the needs of the public require and if there is sufficient traffic to support the proposed service."

Brown stated that "Northwest's contention... cannot be sustained" that the more important of the two routes involved is from the Twin Cities to St. Louis and that such a line should receive first consideration.

ceive first consideration.

In establishing the convenience and necessity for Twin Cities-Kansas City, the report stated: "The primary importance of the proposed route, in addition to the improved service... lies in the fact that it will provide north and south air transport service to the city of Des Moines and the well-populated adjacent territory in central Iowa. The record establishes that there is a well-defined movement of travel between Des Moines and Kansas City and Twin Cities. The proposed service would tween Des Moines and Kansas City and Twin Cities. The proposed service would afford substantial savings in travel time, mileage, and fares over the existing air transportation facilities and it is concluded that a substantial volume of traffic would be developed." Annual cost to the government in mail pay on Twin Cities-Kansas City will be not less than \$100,000, the report said. In addition, approximately \$308.000 will be necessary for radio stations and lights.

Brown pointed out that MCA's present AM26 now furnishes Twin Cities-Kansas City service, and explained that 13% of the company's business is local traffic between those points. "There are few cases, if any," he added, "in which proposed new airline service between points now served by existing airlines will not result in diverting traffic from the lines of existdiverting traffic from the lines of exist-ing carriers. If, therefore, the proposed service will meet a real public need the detriment to the existing route should not constitute an absolute bar to the approval of the new service. While the potential loss of business which confronts Mid-Continent's route 26 herein is substantial, the record in-

#### EAL Exhibit



Governor A, Harry Moore of New Jersey (left) and Capt. E. H. "Pete" Parker, Eastern Air Lines "Million-miler" are seated in a DC-3 pilot cabin mock-up which EAL provided for the Jersey City P. O. Air Mail Exhibit

dicates that the proposed service would serve a present public need.

There is not the substantial community of interest and traffic flow from the Twin Cities to St. Louis which exists between Kansas City and Twin Cities, Brown said. Between St. Louis and Des Moines there is a community of interest, he added.

Also proposed at the hearing was an alternate route between Twin Cities and St. Louis via Rochester, Waterloo, Cedar Rapids, Iowa City, Tri-Cities, Cedar Rapids, Iowa City, Tri-Cities, Peoria and Springfield, but Brown stated that "insufficient evidence" was submitted on such a route.

#### Traffic Way Up

Further evidences of the phenomenal increase in airline passengers during the winter just closed have made their appearances. TWA re-ported an increase of 76.7% over previous winter, December through February. American Air-lines reported February traffic was 85.5% over the same month of 1939, an increase of from 20,881 to 38,737 passengers. New York-Boston figures jumped up 134% Braniff Airways reported a 72.6% increase for February over the same month in 1939, while Western Air Express showed a 89.59% increase. Pennsylvania-Central went up 40% over the same month last year. Meanwhile the CAA reported that January traffic figures were 69% over January, 1939.

#### Mercury Seeking Site

Mercury Aircraft Corp., is studying plant sites in all towns near Knoxville, Tenn., for erection of a factory, ac-cording to Jack Baumann, president. He announced that John Hurst, aero-nautical engineer of Detroit, has joined the company as project engineer.

#### 7 NEW EAL PILOTS

Five Are Navy Pilots, One Comes From Air Corps

Capt. Eddie Rickenbacker, president and general manager of Eastern Air Lines, announced the appointment of seven new pilots March 16. They are: Seven new pilots March 10. They are: Lloyd Robert Lake, 27, native of Dunn County, Wis.; graduate of State Teachers College, Eau Claire, Wis.; learned to fly at Pensacola Naval Air Station in 1935 and served at instructor in instrument flying at the Naval Air Station prior to joining EAL. Married to the former Miss Mildred Conrow of

Atlanta Atlanta.

Robert J. Sullivan, 30, native of St.
Louis, Mo.; graduate of University of
California, Berkeley, 1935; made first
solo flight at LaGrande, Ore. in 1929,
and joined the U. S. Navy; holds rank
of Ensign in Naval Reserve; married;
stationed in Atlanta.

Eau Claire, Wis. Holds rank of Ensign in U. S. Naval Reserve. Stationed in

James Lee Bledsoe, 26, native of Mc-Cloud, Okla., graduate of University of Oklahoma; made first solo flight in 1930 at Los Angeles; graduated from Ran-dolph Field (Army) in 1936 and placed in active duty at Langley and Selfridge Fields; holds rank of 2nd Lieut. in Air Corps Reserve; unmarried; stationed

air Corps Reserve; unmarried; stationed at Miami, Fla.

John L. Barnett, 30. graduate of Birmingham Southern College; soloed at U. S. Naval Reserve Base, Opa Locke, Fla., 1935; holds rank of Ensign in Naval Reserve; married; stationed at

Miami.

Dillard S. Tatham, 30, native of Pittsburgh, Kan., made first solo flight 1928 in Grand Rapids, Mich.; employed in factory for four years and has done aircraft engine and overhaul work; barnstormed in Michigan and Wisconsin and throughout the south; flying instructor at Chicago and Grand Rapids; received instrument rating at Alfordo Flying Service, LaGrange, Ill.; unmarried; stationed at Newark.

Raymond A. Leake, native of Pringers and Stationed at Newark.

Raymond A. Leake, native of Prin-cess Anne, Md.; graduate of Univ. of Toledo, 1935; entered Pensacola that year and graduated 1937; ordered to duty attached to Observation Squadron Four; recently was instructor in in-strument flying at Naval Air Station. Pensacola; holds rank of Ensign in Naval Reserve; unmarried; stationed at Atlanta.

Atlanta.

J. H. Snead, 31, native of Bemis, Tenn.; attended Lambeth College and Univ. of Tenn.; began flight training at Navy's Opa Locks Base, Florida; soloed 1935; received designation as Naval Aviator 1936 at Pensacola; ordered to duty with dive bombing squadron; bolds, work of Freign in Belger. ron; holds rank of Ensign in Reserve; unmarried; stationed at Atlanta.

#### Moving to Wilkes-Barre

Welch Aircraft Industries Inc. will more its operations from South Bend, Ind., to Wilkes-Barre, Pa., it was learned on Mar. 7. Wilkes-Barre is making an effort to obtain aircraft manufacturing facilities.



#### At United Meeting







Candid camera shots at the United Air Lines sales convention in Chicago At top are, left to right, B. C. Voight, At top are, left to right, B. C. Voight, eastern division supt. of passenger service; D. F. Magarrell, director of passenger service; and Pat Barnes, western division supt. of passenger service. Left center is Director of Sales B. B. "Buzz" Gragg, who used to be a professional saxophone player. Center right is Ray Ireland (left), general traffic manager, and Harold Center right. right is kay freiand (left), general traffic manager, and Harold Crary, vice president in charge of traffic. At bot-tom are, left to right, S. A. "Steve" Stimpson, San Francisco regional traffic manager; Ray Ireland, and S. R. Newman, Portland, Ore., district traffic

#### Dan Sinkler Promoted by EAL

Daniel L. Sinkler, for six years with Eastern Air Lines, has been promoted to the post of New York district traffic manager. Originally in the New York office, Sinkler became traffic repreoffice, Sinkler became traffic repre-sentative in Newark in 1937 and later made representative for the Newark district. He will be succeeded in Newark by James P. Farrell, a native of New York and employed by EAL since 1933. Gregory Flynn, who leaves the post of N, Y. district traffic manager, will have charge of conventions and sporting

#### Rheinstrom Marries

Charles A. Rheinstrom, vice president in charge of sales for American Airlines, and Miss Marjorie Gleske, of Chicago, were married in Clinton, Ia., March 10,

#### United Holds Sales Meeting at Chicago

Featured by a series of fast-moving illustrated tableaux, the annual sales convention of United Air Lines was held at the Stevens Hotel in Chicago held at the Stevens Hotel in Chrcago late in February. In keeping with the spirit and tempo of the first year of "The Flying Forties," the convention not only included the district traffic managers from over the system, but also representatives of the reservations dept., passenger service, advertising and publicity department.

Opening and closing remarks were made by W. A. Patterson, United presi-dent. Harold Crary, vice-president in charge of traffic, reviewed the com-pany's progress and outlined expansion plans for 1940. B. B. Gragg, sales director, gave a preview of 1940 plans calling on company departmental officials who spoke on passenger service, officials who spoke on passenger service, engineering and radio projects, passenger comfort, personnel, market research, finance and public relations. Representatives of the N. W. Ayer advertising agency made a presentation reviewing United's newspaper and magazine advertising in 1939 and outlining the program for 1940. The convention closed with a banquet.

#### EAL PROMOTES MACKLIN

## Fills New Post of Sales Manager; Succeeded by Sternberg

Frank J. Macklin, who joined East-ern Air Lines in June, 1938, as north-western division traffic manager with offices in Chicago, has been appointed to assume the duties of a newly-created post of sales manager, Paul H. Brat-tain, vice-president, has announced. He will have his headquarters at the company's main offices, 1775 Broadway,
New York City.

A native of Columbus, O., Macklin

has risen steadily in air transportation. He was employed by Continental Air He was employed by Continental All Lines as district traffic manager in Columbus in 1930 and subsequently became connected with Curtiss-Wright Corp., Port Columbus, O., as manager of the Curtiss Flying School. He joined TWA in 1931 and at various times served in Columbus, Chicago, New York, Fort Wayne and Washington, D. C. He is married, has one daughter, and is a member of Delta by Karakatan and the conduction of the control of the control

daughter, and is a member of Delta Pi Kappa fraternity. He graduated from University of Dayton in 1929. He is succeeded in Chicago by Walter Sternberg, former district traffic man-ager for Eastern at Chicago. He will have supervisory capacity over EAL stations at Chicago, Indianapolis, Louis-ville, Nashville and Chattanooga. Stern-berg is a native of New York, joined in 1930, and has served in the traffic department at Atlanta, Miami, Vero Beach and Jacksonville.

American Airlines Opens Two Schools

#### Post Office Will Not Certify New Routes at Hearings

Although it has been asked to do so in the past and will probably receive requests in the future, the Post Office Department has indicated that it will not appear at CAA hearings to certify that any new route is required by the needs of the postal service.

By favoring a new route, the P. O. feels that it would be putting the CAA in an embarrassing situation. It is also felt that if one were certified, political pressure and other factors would compel certification of all applications. In addition, the P. O. would be forced to appear at hearings and present its case, a function for which it has neither the time nor the money. The P. O. will continue to make mail counts available for use at hearings, however.

Only case in which the Department

will do any certifying will be where it might find a pressing postal need be-tween two communities where there is no service and where none is proposed. In such an instance, establishment of a route will be requested.

It was pointed out by the P. O. that past certifications have been given only on established routes, such as Pitts-burgh-Buffalo, Houston-Corpus Christi and Houston-San Antonio.

#### UAL RESERVATIONS

#### Rauen Announces General Expansion and New Employes

Expansion of the reservations department of United Air Lines has been an-nounced by Jim Rauen, manager of reservations. Thirteen new employes reservations. Thirdeen new employees have been added, two new teletype circuits have been added, one between Chicago and Denver and one between New York and Cleveland, and a new reservations office has been established at Denver Municipal Airport, Denver. The reservation office at Union Air Terminal, Burbank, Calif., will be moved to the down-town Los Angeles sales office.

sales office.

New reservations employes are: W.

H. Brandenburg, R. S. Jeffers, P. T.

Ketsker, Chicago; L. E. Perry, and B.

Strong, Portland, Ore: J. S. Honeywell,

W. R. Shelby and M. Hazdil, Cleveland;

G. P. Abbott, E. Munger and A. Osman,

New York; K. E. Gallagher, San Francisco, and W. L. Moore, Burbank.

Barr Shipping Corp. Moves On and after March 30 Barr Shipping forp, will be located at 25 Broadway, Corp. will be located at 25 Broadway. New York City. Former offices were at 25 Beaver Street.

#### Operators Join CAA

W. B. Duncan and Doyle S. Granberry, radio operators in the control tower at Love Field, Dallas, have taken positions with the CAA, Duncan going to Cleveland and Granberry to Chicago.

#### Along the Lines

Eastern Moves April 2—Eastern Air Lines will begin operating from La-Guardia Field, North Beach, New York City, April 2. It will use Gate 13 and until a new hangar is completed it will se part of United Air Lines' hangar.

use part of United Air Lines' hangar.

Pan American Quits Baltimore—On
or about March 31 Pan American Air,
ways will move its trans-Atlantic clipper
terminal from Baltimore to LaGuardia
Field, North Beach, New York, Most
of the employes and equipment will be transferred, but a servicing staff will remain to handle ships using the Balti-more base when New York is closed in. Baltimore will become more or less of eather alternate after April 1.

Mid-Continent—Mid Continent Air-

lines has moved its Tulsa sales office into larger quarters in the Atlas Life Bldg., 415 South Boston St. Robert

Brainard is in charge.

Ten American Flights — Effective
March 15 American Airlines increased its
New York-Washington schedules from seven to nine trips daily and the Wash-ington-New York schedules from eight to ten trips daily, an increase of two round-trips. The airway between the two cities thus becomes the busiest air-way in the world with 31 flights operat-

way in the world with 31 flights operating between the two cities. Eastern
being the other operator.
United's Portland Hangar—J. A. Herlihy, v.p. of operations of United Air
Lines, has announced the letting of
\$\frac{8}{4}\$!75.355 in contracts for United Air
Lines' new hangar at Columbia Airport.
Bortland One. The houseautil here Portland, Ore. The hangar will be 100 by 160 feet, sufficient to house the Douglas DC-4. A passenger station is included.

Eastern Employes Report—Under the direct supervision of Capt. Eddie Rick-enbacker. president of Eastern Air Lines, an elaborate four-color booklet detailing EAL's progress and graphically illustrating its financial report has been distributed to employes. Part of the booklet describes and mans the new routes which EAL has applied for, while charts and diagrams simplify facts and figures about the company. On the inside cover is a personal message from Capt. Rickenbacker to his employes.

PCA Promotion Booklet—To acquaint patrons and prospective air travelers with Penn-Central's new Douglas DC-3 fleet, the company has prepared a profusely illustrated booklet with a four-fusely illustrated booklet with a fourcolor cover, one of the most compre-hensive such booklets ever issued by an airline. Passenger comfort, equipment operations and personnel are given pictorial treatment. C. Bedell president, has a signed foreword.

Braniff Seats Up — Since December.

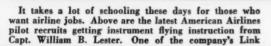
Brainf Seats Up—Since December. 1939, actual daily seat mileage flown on Braniff Airways Chicago-Taxas routes has increased 65.5%, the company announces. Effective Mar. 1 a new third flight began round-trip operation with DC-3's between Chicago and Dallas.

Braniff's Unique School—A new type of training school opened March 11 in Oklahoma City. Braniff Airways brought 18 young ladies to the main offices for a training course. Each girl works in a Braniff sales office along the system. The course lasts three weeks.

Chicago and Southern — When the new fleet at DC-3's goes into service on the Chicago-New Orleans route May I. Springfield, Ill., will be cancelled out as a stop because of field limitations

as a stop because of field limitations Seattle-Juneau — Pan American Air-ways expects to make the first flight between Seattle, Wash., and Juneau. Alaska, about May 15. Final determin-ation of the proposed route is now before the CAA. A Sikorsky S-42 flying boat with a capacity of 25 passengers. will be used.







trainers is shown at rear. On the right is a group of 33 registered nurses now in training at American's Stewardess Training School. The neophytes are getting their first instruction from Miss Hazel Brooks, director.

#### ALPA Contract Status

Employment contracts with United Air Lines and Northwest Airlines are nearing completion, the Air Line Pilots Association reports. Conferences have been held with Chicago and Southern Air Lines, and Mid-Continent Airlines. and the two remaining controversial sections of the Pennsylvania-Central contract have been submitted to the National Mediation Board. The ALPA has already completed contracts with American, TWA and Braniff.

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# Here comes your morning mail...



Whether or not you fly as a passenger, you, too, have an important stake in aviation. Overseas mail reaches your desk in days instead of weeks. Your check from the coast clears overnight. Your morning paper carries pictures taken the day before in a city 3,000 miles away. In a hundred different ways your life is affected by this miracle of modern transportation. And Sperry's continuous development of finer instruments for navigation and flight control is contributing not only to aviation—but to the comfort, convenience and security of your daily life.

SPERRY GYROSCOPE COMPANY, Inc.

#### **Authority Members** Hear Arguments Over PAA Report

Exceptions to the advisory report issued Feb. 6 by CAA Examiners Francis W. Brown and Thomas L. Wrenn on application of Pan American Airways Co. (Nev.) for a convenience and necessity certificate from San Francisco to Auckland, New Zealand, via Los Angeles, Honolulu, Canton Island and Noumea, were taken in oral argument Mar. 14 before CAA Members Robert H. Hinckley, chairman, Harllee Branch, Oswald Ryan, G. Grant Mason Jr. and Edward P. Warner.

The examiners had recommended that certificate be granted for transportation of persons, property and mail between the terminals Honolulu and Auckland only, since the company already holds a certificate authorizing San Francisco-Honolulu operations, and San Francisco-Honolulu operations, and at the same time the Los Angeles stop was declared unwarranted for the New Zealand service. Urging a reversal of the examiners' proposals were James L. Beebe and Ray L. Cheesebro, appearing for the city of Los Angeles, and Henry J. Friendly, PAA counsel.

Beebe and Cheesebro declared that the examiners had based their considerations of public need on the city pop-ulation of Los Angeles alone instead of upon the metropolitan area, and that they had granted too much importance to the eight trips daily now operated by domestic carriers between Los Angeles and San Francisco. The San Francisco connection via domestic carriers was termed "not a convenience" since Los Angeles passengers would lose an entire day with the San Francisco routing and in addition, be stranded whenever weather forced a flight cancellation. Los Angeles, Beebe insisted after describing the city's industrial and commercial growth, is entitled to air service on its own merits.

Friendly argued that the carrier, to operate efficiently, should be permitted to enter the Los Angeles traffic market to enter the Los Angeles trains market direct rather than force passengers to make the Pan American connection at San Francisco. As indication of the company's desire to serve Los Angeles, Friendly introduced a letter from Juan Triendy introduced a letter from stan-Trippe, PAA president, stating the applicant's willingness to assume the additional cost of the stop and to ex-clude such expense from consideration during determination of a mail rate over the route. Annual operating cost for the Los Angeles stop is estimated at \$88.147 during the first year when only westbound service is planned, the annual expense then increasing with twoway operations to \$85,000. Two-way flights into Los Angeles will be possible. Friendly said, with the acquisition by the division of new Boeing 314 aircraft.

Opposing the recommended "spur" certificate from Honolulu to Aukland. Friendly contended that since the servremaily contended that since the service needed is from the mainland to New Zealand and not from Honolulu, the certificate granted should be from San Francisco following the natural trade route. To designate Honolulu the ter-

route. To designate Honolulu the terminal point because it is a focus for the Hong Kong and New Zealand operations is, he said, "unrealistic." Edward W. Weld, CAA counsel, however, defended the examiners' proposals affirming that a duplication of certificates over one route is to be avoided as a matter of policy. There is no more need for two certificates from San Francisco to Honolulu, he offered, than there is in laying duplicate track for a railis in laying duplicate track for a rail-road where facilities already exist. Of the proposed Los Angeles service. Weld asserted that the city should be on both PAA's north and south Pacific routes, or on neither, since if public need for trans-Pacific air transportation exists in the Los Angeles area, it should be met by the existing as well as by the projected operation.

To the question of why the company

#### P.O. Supports Braniff's Request to Carry Mail On Texas Routes

Request that Braniff Airways' application for permission to transport mail over its Houston-San Antonio and Houston - Corpus Christi routes be granted was described by Charles P. Graddick. P. O. superintendent of air mail, in hearing Mar. 18-19, before CAA Examiners Francis W. Brown and John W. Belt, as part of the department's plan to improve air mail service through the to improve air mail service through the use of routes now certificated for passengers and express only.

The post office has the right to use any railroad schedule for the transportation of mail, Graddick explained, sug-gesting that similarly public interest would be served better if all air routes would be served better if all air routes and flights operated were available to the post office. Pointing toward the day when much of the regular first class mail will be carried by air, Graddick urged that possible future developments be given consideration in ascertaining the need for mail service in any terri-

Opinion was expressed by Graddick that Braniff is in better position to pro-vide local Houston-San Antonio and Houston-Corpus Christi air mail service than Eastern Air Lines, present mail car-rier between these cities and intervener in the proceeding. Two kinds of opera-tion are involved, he declared, with Eastern offering through service between Mexico and the eastern states, Braniff primarily local service. Br Braniff he said, could probably meet the local need at a lower cost to the post office than Eastern, since the former can oper-

ate planes out of its nearby Dallas base more cheaply than Eastern can out of Miami. Though Eastern's present rate for AM-42 is \$0.00 Graddick indicated the post office is open to the requirement of paying for the service retroactively if and when the CAA should establish a new rate for the route.

Position of Braniff, as stated by Charles E. Beard, vice president-traffic, is that while Eastern provides primarily a through air mail service that company's schedules are inadequate to satisfy local needs. John Mobley, of Corpus Christi, testified that mail carried by Eastern out of that city for Houston is not distributed any sooner than rail-carried

Robert J. Smith, Braniff vice president-operations, stressed Braniff's positional advantage over Eastern which would enable the company to effect greater flexibility in handling equip-ment. Braniff, he indicated, would incur no additional costs with the carriage of mail over the routes.

J. W. Moore, assistant secretary of Eastern, testified that his company would add local schedules between the citles involved if so required by the post office. Eastern, he said, does not be-lieve, however, that public convenience and necessity exists for the mail sched-ules proposed by Braniff. Counsel for the parties included Roger Whiteford. Braniff; George A. Spater, Eastern; William O'Brien, P. O., and John H. Wanner,

#### **NACA Reports**

The National Avisory Committee for Aeronautics. Navy Bidg.. Washington D. C., has listed the following technical reports, notes and memos available. Quantities are limited.

TN 749. A new method of studying the flow of the water along the bottom of a model of a flying-boat hull, by Kenneth E. Ward.

TN 750. A generalized wortex theory of the screw propeller and its application, by Hans Reissner.

TN 751. Damping formulas and experimental values of damping in flutter models, by Robert P. Coleman.

TN 752. An investigation of sheet-stiffener panels subjected to compression loads with particular reference to torsionally weak stiffeners, by Louis g. Dunn.

loads with particular reference to torsionally weak stiffeners, by Louis 6.
Dunn.

TN 753. Measurement of the forces
acting on gliders in towed flight, by
W. B. Klemperer.

TM 929. Aerodynamics of rotatingwing aircraft with blade-pitch control
by A. Pfluger. (From Luttfabriforschung, vol. 16, no. 7, July 26, 1939).

TM 930. Experimental contribution
to the study of combustion in compression-ignition engines, by R. Duchene (From Publications Scientifiques et
Techniques du Ministere de l'Air, no.
149, 1939).

TM 931. Testing of high-octane fueis
in the single-cylinder airplane engine.
by Fritz Seeber. (From Luttfahrtforschung, vol. 16, no. 1, Jan. 10, 1939).

TM 932. Theoretical and experimentai investigations of the drag of installed aircraft radiators, by W. Barth
(From proceedings of the Fifth International Congress for Applied Mechanics
Cambridge, Mass., Sept. 1938).

TM 933, The strength of shell and
tubular spar wings, by H. Ebner. (From
Luttfahrtforschung, Apr. 20, 1937).

Viking Co. Discontinued

New Haven, Conn.—Viking Flying Boat Co., long a fixture at the city airport, has discontinued manufacturing operations here, Airport Manager John H. Tweed revealed recently. Majority of the mechanics employed by the con-cern were transferred to Lockheed Aircraft Corp. in Burbank, Cal.

#### Red Bluff Stop Favored for UAL On AM11; 5 Feeder Points Denied

United Air Lines should be granted permission to include Red Bluff, Calif., as an intermediate point on AM11, Seattle-San Diego, but should not be permitted to stop at Chico, Stockton, Marysville, Modesto and Merced, according to a proposed report released Mar. 14 by CAA Examiners C. Edward Leasure and Thomas L. Wrenn.

All of the proposed points except Red Bluff are now within a reasonably short time and distance of air transportation by highway or through frequent schedules of surface transportation agencies, the examiners said. United desired to institute a feeder line for that area.

'It is obvious that the inauguration of the proposed service will offer no great saving in time to the prospective long distance traveler," they stated. "On the contrary, such traveler would in all probability contine to utilize surface transportation to major traffic centers in order to avoid frequent change of planes and to avail himself of more frequent and convenient schedules. However, Red Bluff is approximately 165 miles by highway, or a minimum of 3½ hours, from present air transportation service. The record discloses that city to be an alternate airport for route 11 operations, and that service could be furnished to it by petitioner's through schedules. A stop at Red Bluff would involve little extra cost other than that incident to landings and take-offs, and would provide

has not included Los Angeles on the San Francisco-Hong Kong trip, Friendly replied that when the service was inau-gurated conditions in the Los Angeles harbor were unfavorable and entrance was not feasible with PAA's Martin 130 craft. At the initial hearing last Octo-ber, Trippe testified to intention of in-cluding Los Angeles on the Hong Kong route after experience is gained with the New Zealand hop.

air transportation not only for that city and the nearby Shasta dam project but would also provide service for Chico and the surrounding territory.

and the surrounding territory.

"Balancing the prospective outlay of governmental funds which would be necessary as mail compensation for the additional mileage and to provide air navigation facilities for operation under all conditions against the amount of service the proposed operation can be expected to render as disclosed by the exidence, it is apparent that a finding that the public convenience and necessity requires the proposed service, other than to Red Bluff, is not warranted." The examiners found that UAL is fit, willing and able to furnish Red Bluff service.

willing and able to furnish Red Bluff service.

A Post Office Department witness testified at the hearing that the cost to the government in mail pay, on a basis of 35c per mile for daily operation of 707 miles to all six towns, would approximate \$90,000 per year, or excluding Sundays and holidays, \$77,481. A stop only at Red Bluff would involve no additional mileage.

The same witness also testified that the proposed service would benefit to some extent the transportation of air mail east, as it could be used advantageously to Omaha and Chicago, but that it would not improve second morning delivery of mail in New York, now available. He was of the opinion that some real benefit would be derived from night service to the intermediate points in that mail would be speeded to all cities.

"The petitioner requests that the cities here invented is a second."

"The petitioner requests that the cities here involved be included as intermediate points on its route 11," the examiners explained. "However, with the exception of Red Bluff, the service proposed is in the nature of a new feeder operation to afford air service to these cities without necessitating a rerouting of, or stops by, its through service. The petitioner contends the proposed operation should be considered in its entirety, as the omisconsidered in its entirety, as the omis-sion of any one point would not sub-stantially reduce the cost of serving the remaining points but would ma-terially reduce the revenues to be de-rived from the operation. As herein-before shown, the proposed operation would necessitate the payment of mail compensation in substantial amounts.



Contractors to the United States Army, Navy and Coast Guard and Aircraft Engine Builders.



THE BG CORPORATION

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George R. Carter, formerly in Eastern's radio department at Atlanta. has been transferred to Tampa as combination transportation agent and radio operator. A native of Tampa, he joined Pan American in 1929 and later served with American and Deita in the midwest and south.

Capt. Al Schmidt, United Air Lines pollot and Lucile Zihlman, stewardess on the line, were secretly married Jan 3.

Six United first officers have been promoted to reserve captains. They are: John E. Sandow, N. Y.-Chicago; Lucian N. Powell, Denver-Chicago; Thomas W. Powell, Denver-Chicago; Thomas W. Pavis, Jr., Salt Lake-Cheyenne; Joseph R. Qualm, N. Y.-Chicago; Joseph S. Irvine, Chicago reserve; Francis L. Wallace, Cheyenne reserve.

Kenneth DeWeese has joined the overhaul and repair base at hevenne

Richard R. Rupp, supply man at Laguardia Field, has been promoted to assenger agent for United at Omaha. In the United N. Y. traffic office Nat Groton, manager of counter dept., has been transferred to general traffic office and Robert Bergin succeeds Groton as nter dept, manager.

E. D. "Ted" Cox, formerly of N. Y. reservations, has become counter salesman for United in New York.

W. B. Helme, formerly of N. Y. and Chicago reservations and traffic offices, has been added to the staff of P. M. Willcox, secretary of United Air Lines.

New additions to United's Chicago traffic office are: A. Hillman Holmberg, covering heavy industries; John V. Ryan, Jr., new counter salesman; and Waldemar J. Gydesen, junior passenger

United's woman's dept. in New York now handled by Miss Ruth Haviland.

Harmen Heald, sales representative for United in Cleveland, has been trans-ferred to Oakland. Robert Meyer, Cleveland counter salesman, succeeds Heald and R. W. Butler, pass. agt., re-places Meyer at the counter.

Sacramento traffic United will be in charge of Willis Camp, former salesman in San Francisco.
Headquarters will be the Senator Hotel. Charles Meyer, Junior pass, agt. for inited in San Francisco, has been prooted to counter duty and is succeeded W. B. Raymond.

by W. B. Raymond.

H. W. Crowther, maintenance foreman
at Pittsburgh for TWA, has been transferred to New York where he is maintenance foreman for the line's eastern
terminal at LaGuardia Field. E. T.
Haff, crew chief at NY, took over Crowther's position at PT. John Forbes, who
was maintenance foreman at NY, is a
crew chief at LaGuardia Field.
New United station mgr. at Allentown-Bethlehem (Pa.) Airport is Hank
Mahaffy.

rew chief at LaGuardia Field.

New United station mgr. at Allentown-Bethlehem (Pa.) Airport is Hank Mahaffy.

New American commissary clerks at Newark. N. J., are Howard Vetter and Lloyd Bogart, and transferred from maintenance to apprentice commissary in New York is Glenn Armstrong. New commissary service clerk at NY is Milton MacDuff.

W. O. Davis, TWA radioman at Winslow, Ariz., has been transferred to LaGuardia Field. New York City.

H. K. Rulison, assistant treasurer of American, and Lucille Malkemus, memer of AA's Chicago sales staff, recently received pins from C. R. Smith, resident, in token of their 10 years of arrice with the line.

A. H. Monroe, who has been a junior cark in TWA's Kansas City headquarters, has become passenger agent at the company's Winslow, Ariz., airport. Karl Beckle, recently left United's enforcing department in Chicago to go to Cheyenne, Wyo. His place at Chicago as taken by Don Woodward.

John Diggie has been promoted by Western Air Express to assistant superintendent of maintenance, at Burhank, Cal., replacing Mack Bell who esigned to take a position in the CAA's inspection section.

The following American mechanics reently were changed in status to senior mechanics: Roy Swackhamer, Pavid Smith Jr., and William Martin at New Smith Jr., and Andrew Koy at Burfilo. Elmer Koop was changed in status forms. In the maintenance, at New Pork.

New employe of EAL in operations at

John Kenny Resigns

John W. Kenny has resigned as vice president of the Spencer-Larsen Aircraft Corp., Amityville, L. I., N. Y., according to announcement by P. H. Spencer, president. Mr. Kenny was made vice-president at the time Spencer-Larsen acquired the Long Island Aircraft Corp. of which he had been president. He has been in charge of the completion Coast Guard overhaul contracts held by the Long Island com-pany at the time of its acquisition.

Elastic Stop Nut Builds

Elastic Stop Nut Corporation, Eliza-beth, N. J., has broken ground for a new plant on Vauxhall Road, Union, N. J., a suburb of Newark. plant is being laid out along most modern lines and will be used solely for the manufacture of the corporation's line of self-locking nuts. Transfer from the present plant will be made about June 1. The Austin Company, Cleveland, is the general contractor.

New Pesco Unit Permits High Altitude Flights

A new fuel system which overcomes A new fuel system which overcomes the vaporizing tendency of high test gasoline at high altitudes, has been developed by Pump Engineering Service Corporation, Cleveland, in cooperation with Sgt. Ralph E. Gray of Wright Field, Dayton, according to Ralph H. McOuat, vice-president and general manager of Pump Engineering. The new unit has been officially recognized new unit has been officially recognized as an important development, although

as an important development, although engineering data is secret. Military aircraft will now be able to fly efficiently and consistently at al-titudes above 20,000 feet, Mr. McOuat states, whereas previously military planes were never able to operate con sistently above that altitude. Since anti-aircraft gunfire is effective only to 20,000 feet, military operations can safely be carried on without fear of

ground fire.

#### New Stretch Press **Installed at Martin**

Installation of what is said to be the first metal stretching press built and operated in the U. S. has been completed recently in the Middle River plant of Glenn L. Martin Co., near Baltimore, Md. Constructed from Martin specifications by Engineering & Research Corp., of Riverdale, Md., the stretching press is used principally to form large sheets, such as skins and engine cowlings, which formerly were shaped on a power hammer.

The machine primarily consists of two hydraulic cylinders placed beneath a platen between two rows of independent clamp jaws, the cylinders being attached to the platen so that they raise or lower the platen vertically. Tandem operation of the cylinders effects an angular position of the

platen if desired.

With the entire operation requiring With the entire operation requiring but a few minutes, much time is aswed over the former method of bumping in a power hammer or forming by the drop hammer way. The stretching process is reported as an effective medium between hand operation and high production automotive forming methods requiring expensive forming dies and powerful presses. The press does not replace the drop hammer but it appears probable that some parts now formed on the drop hammer may soon be successfully manufactured on the new stretching press. new stretching press.

Librascope Orders
Librascope, Inc., Burbank, Calif.,
manufacturers of flight and balance
computers, has announced complete
installation of balance computers to
TWA for the Boeing 307 Stratoliners,
and flight computers to American Airlines. Orders received so far in 1940
exceed 1939's total business.



# THE VISION OF MEN WITH WINGS **COMES TRUE**

On March 27th the nation's seventeen airlines completed a year in which they achieved a safety record never surpassed by any form of transportation. United Air Lines is proud of its part in it-and congratulates the other airlines on theirs.

During this year, over 36,500 miles of airways, 2,000,000 passengers have been safely flown 815,-000,000 passenger miles, with a total of 87,000,000 airplane miles.

This great accomplishment is the product of experience, of invention, and of a deep sense of responsibility to the traveling public. Through careful planning and the close co-operation of the airlines and the Civil Aeronautics Authority, policies were adopted with one end in view-to combine security with the acknowledged speed, comfort and luxury of air travel. An outstanding record of safety has been the result.

The vision of men with wings, old as time itself, has become a reality.

# UNITED AIR LINES

# Offers Greater **PRECISION**

SOLAR...pioneer maker of corrosion resistant manifolds pioneers again. This time with the highest precision-factor known to manifold construction

IT PAYS TO FLY WITH **SOLAR EQUIPMENT** 



#### Tom Beck Recommends Lightplane Mfrs. Unite For Joint Publicity, Promotion

Executives of about ten small plane and engine manufacturing concerns met in Cleveland March 8 under the leadership of Thomas H. Beck, president of the Crowell-Collier Publishing Company, to discuss publicity, promotion and advertising for the lightplane in-dustry. Mr. Beck said he called the meeting "at the request of several members of the industry who seemed to be in the mood to want to get together on" those subjects.

Mr. Beck recommended that they form an association to cover only pub licity, promotion, advertising, selling and merchandizing, as well as estab-lish ethical standards having to do with the latter. Richard Depew, of Taylor-craft, was chosen head of a steering committee.

"The industry has the Aeronautical Chamber of Commerce to look after labor legislation, and such things," Mr. Beck said after the meeting, "and in order to avoid duplication, I recommended they confine themselves to the above subjects. I think there is a grand opportunity for them to do a real job with the public. The kind of publicity I had in mind had to do with real news, not the tawdry hand-outs that usually come from such associations,' Mr. Beck offered the cooperation of his publishing company and suggested the lightplane group should maintain an office with a competent publicity man and secretary, and, if a sufficient fund were contributed, to take up advertising and appoint a good advertising agent.

Companies represented at the meeting were Piper Aircraft Corp.; Taylor-craft Aviation Corp.; Luscombe Air-plane Corp., Waco Aircraft Corp., Ly-coming division of Aviation Mfg. Corp., Stipson Division of Aviation Mfg. Corp. Aircooled Motors Corp., Jacobs Aircraft Engine Co., Porterfield Aircraft Corp., and Continental Motors Corp.

#### Incorporations

Delaware-Standard Aeronautical Corp. To deal in airplanes, etc., \$100,-000 par \$10. David E. Jackman, John E. Cosgrove, Edwin E. Lindgren. (Wilmington).

Washington-Willapa Harbor Airways, 605 May Street, Raymond. \$50,000. David D. Anderson, Robert Purcell and J. C. Lewis. (Olympia).

Canada-Wilson Wing Co. Ltd., \$100,000, Toronto.

Illinois—DiCesare Offset Propeller Corp., 3311 West 47th Street, Chicago; 2,000 shares par value common at \$2 a share. Incorporators: P. DiCesare, F. Mazzukelly, Henry Mazzukelly, To deal or traffic in airplanes, hydroplane

New Jersey—Sussex Flying Club, 212 Grand Ave., Hackettstown; to own and

Grand Ave., Hackettstown; to own and operate flying fields and airplanes and give flight instruction. Dr. J. Meredith Smith, Carl H. Winnefield, R. Walter Mitchell, and C. E. Wyker.

New Jersey—American Seaplane Ramp Co., 162 Howard St., Phillipsburg; to mfr. and sell patented devices pertaining to aviation industry; 2.500 shares of stock no par value. Randolph W. Becker, Carol H. Phillips, and S. Taylor Wilson.

New Jersey—Lincoln Airniane Service.

New Jersey—Lincoln Airplane Service, Lincoln Park; \$99,000.

#### Air Associates Catalog

A new catalog of aviation materials, containing 196 pages with over 1,300 illustrations, is being distributed to the industry by Air Associates Inc., Roosevelt Field, Garden City, N. Y. Main index of the catalog—known as No. 18—contains over 1,900 entries.

#### NEW YORK STOCK EXCHANGE

	W	eek Er	nded Mai	r. 16	Week Ended Mar. 23 Net					
	High	Low	Change	Sales	High	Low	Change	Sale		
American Airlines	5534	521/4	- %	14,400	621/4	53	+81/8	11,30		
Aviation Corp	7	6	- 78	19,700	734	6	+11/8	39,10		
Bendix Aviation	3436	3114	-21/2	32,100	34	3034	+238	28,90		
Boeing Airplane	23%	2058	-21/2	8,000	223%	1918	+114	13,00		
Consolidated Aircraft .	28	2534	-2	6,800	2736	2536	+ 38	3,70		
Continental Motors	41/4	31/2	- 1/2	30,000	4	31/2	+ 38	22,700		
Curtiss-Wright	1114	914	-13/8	126,200	10%	914	+ 78	119,20		
Curtiss-Wright A	3238	295%	+114	52,900	3114	2834	-11/4	31,00		
Douglas Aircraft	84	77	-61/8	9,000	8314	7738	+538	9,30		
Eastern Air Lines	3534	33%	-11/8	18,900	38%	3414	+458	19.10		
Ex-Cell-O	2618	2314	-232	5,700	2614	231/2	+23/4	3,900		
Lockheed Aircraft	3034	28	-21/2	21.000	3112	2738	+3	26,800		
Glenn L. Martin	445%	391/4	-41/8	30,700	43	3918	+358	21,70		
Natl. Aviation Corp	1234	1134	- 1/2	6,000	141/8	1136	+258	18,800		
N. American Aviation .	25	21	-356	34,700	241/2	201/2	+3	37,900		
Pan American Airways	193%	1758	- 58	73,400	2158	1756	+378	74,900		
Sperry Corp	4478	41	-334	9,800	4312	41	+116	9,100		
Thompson Products	351/8	3134	-23/4	4,500	3414	3114	+218	3,600		
rwa	18%	161/4	+ 34	36,600	1932	17	+214	23,70		
United Aircraft	4812	4416	-35g	18,700	4756	4836	+-232	9,400		
United Air Lines	18%	1614	+136	107,900	20	1736	+214	82,90		
Wright Aeronautical .	119%	114	-3	240	1181/2	115	+232	170		

#### NEW YORK CURB EXCHANGE

	W	eek En	ded Mar. Net	16	Week Ended Mar. 23 Net					
	High	Low	Change	Sales	High	Low	Change	Sales		
Aero Supply A	223/4	223/4	+1%	100	****	****	*****	700		
Aera Supply B	51/2	5	- 12	1,900	516	458	. 9/	500		
Air Associates	1136	11	- 74	200	1134	10%	+ %	200		
Air Investors	216	21/8	- 14	400	21/2	23g	1 196	700 200		
Air Investors cv pf	281/2	28	+1	1,200 1,100	2812	2716	*****	200		
Air Investors war	3/8	338	- 18	5,300	78	314	4 56	2,130		
Aviation & Transp	378	55%		4,400	716	576	+1	4,500		
Beech Aircraft	27	23	7.00	15,600	2614	23	+4	5,100		
Bell Aircraft Bellanca Aircraft	63%	614	_ 34	1.800	656	616	+ 16	1.100		
	656	616	- 38	1.800	616	5	- 14	3,300		
Brewster Aero	1536	1214	-21/a	23,400	151/2	1256	+216	22,800		
Canadian Colonial	716	63%	- 1/2	3,500	956	612	+216	17,900		
Fairchild Aviation	11	956	-116	1,900	1036	93/4	+ 16	1,500		
Fairchild Eng. & Air	576	476	-1	19,800	516	476	+ 56	8,300		
Brumman Airc'ft Eng.	16%	1556	-136	2.900	16%	1434	+1	3,400		
Irving Air Chute	1714	1614	-114	700	16	15%	- 1/4	200		
Penn-Central Airlines.	16%	1476	- 14	16,100	1856	1514	+316	15,100		
Republic Aviation	61/4	516	- %	13,600	534	514	+ 38	11,400		
Roosevelt Field	23/4	234	- %	800	316	256	+ 78	700		
Waco Aircraft	5	436	+ 36	400	****		****	-0.500		
Western Air Express	618	514	+ 15	9,900	615	53/4	+ %	10,500		

#### 2 Firms Join Chamber

Menasco Manufacturing Co., Angeles, and Burnelli Aircraft Corp., Keyport, N. J., have joined the Aeronautical Chamber of Commerce.

Aero Thread Aircraft Screw Products Company, Inc., Long Island City, New York, N. Y., has issued literature describing Aeronew high-strength thread system.

Phill to

Phillip

Calif., h Glenn L ubsidia ny, B ctive fo notors : r-coole ines so The F te prod 4-cylin No. 59 This en Phillips cylinde 250 cylinde eloping Plant anagers ently pl ivision es in was with om 192 s assista ompany r., is I

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#### Phillips Buys Rights to 3 Martin Engines

Phillips Aviation Co., Van Nuys, Calif., has acquired the patents, rights, tools, dies and other equipment of the Glenn L. Martin Motors Corp., a small subsidiary of the Glenn L. Martin Company, Baltimore, which has been in-active for several years. The Martin motors subsidiary had developed three air-cooled, inverted inline aircraft en-gines some years back but in recent ears the equipment was in storage.

The Phillips company plans immediate production of one of these engines, 4-cylinder 120 hp. engine known as the Martin 333 when it obtained ATC No. 59 from the Dept. of Commerce. This engine is being renamed the Phillips 333. The other engines, to be produced later, are the Phillips 500, a 6-cylinder inline model developing 180 o 250 hp., and the Phillips 666, an acylinder inverted Vee-type engine developing from 300 to 500 hp.

Plant operations will be under the

managership of Quentin Dohse, until re-cently plant manager of Chance-Vought division of United Aircraft Corp. Dohse was in the Air Corps ten years and was with Boeing Aircraft Corp., Seattle, rom 1929 to 1936, the last four years is assistant superintendent. The Phillips Company, headed by James G. Phillips is privately financed with 80,000 shares outstanding out of an authorized rapitalization of 100,000 shares. The npany owns 20 acres of land and has 50,000 sq. ft. of factory space. It holds ATC's on two types of training planes.

#### Joins Texas Board

Major Edward M. "Ted" Haight, World War Ace and in recent years regional air-port supervisor and engineer for the airsection of the CAA, resigned recently. He has been appointed by the Texas Aeronautics Board to draw up a state airport plan and will be based at Meacham Field, Ft. Worth.

#### **Airline Reports**

(Continued from page 1)

evenue ratio for other lines showed american 71%, TWA 65% and United

Industry load factor for 1939 was \$18%, a sizeable increase from the 9% load factor for 1938. Revenue pas-enger miles jumped 43% from 475,400,000 In 1938 to 677,145,700 in 1939 (calendar years). Revenue passengers increased 3% from 1,152,396 to 1,703,386, while revenue miles flown increased 18% from 9,314,612 in 1938 to 82,335,718 in 1939.

#### GOVERNMENT CONTRACTS

(Awards of \$10,000 and Over) Release Data Shown

#### ENGINES, PARTS, ACCESSORIES

ENGINES, PARTS, ACCESSORIES

Sperry Gyroscope Co., Brooklyn, N. Y., 3/11, control & pulley assemblies for automatic pile units, \$98,452.50 (Air Corps).

Pratt & Whitney Aircraft Div., United Aircraft Corp., E. Hartford, Conn., 3/11, spare parts for engines, \$272.359 (Air Corps).

Sterling Engine Co., Buffalo, N. Y., 3/11, electric power plants, \$80,150 (Air Corps).

Jaeger Watch Co, Inc., New York, N. Y., 3/15, aircraft clocks, \$62,668.20 (Navy).

Glenn L. Martin Co., Baltimore, Md., 3/19, signal lamp, strainer, gun turret assemblies, etc., \$30,531.14 (Air Corps).

Bausch & Lomb Optical Co., Rochester, N. Y., 3/22, aerial navigation instruments, \$112,350 (Air Corps).

Eclipse Aviation Div., Bendix Aviation Corp., Bendix, N. J., 3/22, starter assemblies, switches & solenoids, \$32,029 (Air Corps).

Fairchild Aviation Corp., Jamaica, N. Y., 3/22, aircraft cameras, \$509,941 (Air Corps).

Hamilton Standard Propellers Div.. United Aircraft Corp., E. Hartford, Conn., 3/22, propeller & control assemblies, \$60,156 (Air Corps).

#### MISCELLANEOUS

T. S. Willis, Janesville, Wis., 3/11, construction of headquarters & administration building, Chanute Field, Ill., \$117,710 (War).

W. S. Ching, Honolulu, T. H., 3/11, construction & completion of post exchange, Hickam Field, T. H., \$105,055 (War).

Sam Bergesen, Seattle, Wash., 3/11, construction of photographic laboratory, McChord Field, Wash., \$35,380 (War).

Charles Dahlgren, Seattle, Wash., 3/11, bridge at McChord Field, Wash., \$23,900 (War).

(War).

(War).

Lieb Construction Co. Inc., New York, N. Y., 3/11, construction of temporary barracks & mess halls. Westover Field. Mass., \$184,900 (War).

Henry Doherty Silk Co., Clifton, N. J., 3/11, parachute silk, \$18,600 (War).

Hamilton Standard Propeller Div., United Aircraft Corp., E. Hartford, Conn., 3/13, services & material including testing, \$21,017 (Navy).

Paul H. Smith Construction Co., Miami, Fla., 3/13, construction & dredging in Virgin Islands, \$298,670 (Navy).

A. Singarella, Boston, Mass., 3/13, foundations for hangar, Naval Reserve Aviation Base, Squantum, Mass., \$15,400 (Yards & Docks).

Jamestown Steel Partitions, Inc., Jamestown, N. Y., 3/15, cable, \$15,324.55.

Phelps Dodge Copper Products Corp., New York, N. Y., 3/15, cable, \$15,324.52

Link Aviation Devices, Inc., Binghamton, N. Y., 3/18, link trainers, \$241,024.66

Link Aviation Devices, Inc., Binghamton, N. Y., 3/18, link trainers. \$241,024.66 (Navy).

Rockford Machine Tool Co., Rockford, Ill., 3/18, shaper & planer, \$11,810 (Navy).

Virginia Engineering Co. Inc., Newport News. Va., 3/19, completion of two hangars at Nava! Air Station, Jacksonville, Fla., \$352,600 (Yards & Docks),

Service Tool Engineering Co., Dayton, O., 3/21, screwdrivers, dies, punches, etc., \$18,983.80 (Air Corps).

Bunell Machine & Tool Co., Cleveland, O., 3/21, pulley assembly, etc., \$14,634.30 (Air Corps).

#### CLASSIFIED ADS

7¢ per word—minimum charge \$1.00— Payable in advance

#### HELP WANTED

AIRCRAFT FACTORY MANAGER. Excellent opportunity. See advertisement on Page 3. Box 301 AMERI-CAN AVIATION.

#### Aviation Institute of New York

24-15S Bridge Plaza North. Long Island City, New York

C. A. A. recognized, aircraft and engine courses. 10 min New York's North Beach Airport

DIVISION of FRANK AMBROSE, Inc. Dealers & Exports Airplanes, Engines & Accessories

WANTED: PILOTS AND MECHANICS AVIATION EMPLOYMENT SERVICE 41 NORTH DADE AVENUE FERGUSON, MISSOURI

#### Breese Stall Device

Test Engineer Vance Breese, who directs flight experiments for North American Aviation Inc. and Vultee Aircraft Inc., has applied for a patent on his "stall control" device recently announced. Developed by Breese, this device is an "air dam" which redistributes the stall and spreads it evenly over a plane's wing. In effect, for a 40-foot wing the Breese instrument is a 14-inch split, pencil-sized tube fixed to the critical point of a wing's leading edge. It affects the air-stream across a plane's wing so as to reduce stalling. The device appears on reduce stalling. The device appears on the Vultee Valiant trainer and on the North American trainer.

#### SUMMARY OF U.S. AIR TRANSPORT OPERATIONS FOR 1939

(Compiled from Monthly Reports to the CAA a)

	Carried	Miles	Miles	Factor	Rev. Miles Flown	Mail LbMiles	Express & Freight
American Airlines Boston-Maine Brant	\$42,891 18,383 62,247 23,353 6,917 29,391 251,099 8,986 18,636 19,935 12,223 201,823 201,823 201,823 201,823	207,671,651 2,813,073 19,825,703 9,246,537 7,852,095 102,904,292 2,286,999 4,194,218 34,743,246 21,192,745 100,193,034 14,839,747 11,035,541 677,145,704	321,126,530 7,238,408 33,654,986 17,652,420 615,876,870 194,525,674 10,110,670 10,903,832 6,996,786 4,966,990 201,244,162 244,072,153 27,564,517	64.66% 58.86% 52.35% 52.35% 52.35% 52.35% 52.85% 52.89% 52.62% 52.62% 64.723% 64.79% 64.01% 64.01% 66.10% 6	19.170.018 79.2771 3.494.466 1.772.240 953.778 10.992.428 1.011.046 1.167.379 714.978 2.4667.687 17.682 17.687.066 2.277.161	2,952,024,476 1,969,536 501,756,256 192,459,984 42,695,381 136,249,129 2,12,862,538 66,986,474 232,037,331 2,802,538 66,161,162,44 471,108,965 17,209,002,972	1,512,720,681 4,771,713 125,869,702 56,411,769 4,425,547 21,181,944 651,594,904 12,284,791 13,950,258 202,102,089 103,747,532 17,789,078,335 165,953,125 5,406,859,981

a All monthly reports to the CAA are subject to revision and year-end adjustment.

	Total Operating Rev.	Passenger Revenue	Mail Revenue	Express-Freight Revenue	Total Operating Expenses	Direct Flying Expenses	Indirect Flying Expenses	Net Income Before Inc. Txs.	Net Income Transf. to Surplus
American Airlines Bosion-Malaine Esanie Esanie Esanie Esanie Esanie Esanie Leita Leita Leita Leita Astional Northwest Pons-Gentral united Air Lines united Air Lines Western Air Express	404,946.95 1,746,720.61 860,428.22 406,182.36 827,033.14 7,565.673.22 444,859.53 642,855.93 315,990.70 3,184,203.05 1,857,493.25 7,899,883.98	\$10,712,598,40 10,74,472,57 902,530,66 424,291,21 96,374,40 350,019,54 5,923,948,72 106,920,02 1,324,728,42 1,262,453,39 5,143,966,97 7,561,141,58 503,998,34	\$3,882,221,60 2331,164,65 767,696,87 407,890,22 305,701,86 404,767,27 1,703,709,97 344,527,80 453,630,58 2,763,285,28 535,104,56 2,403,724,77 3,702,071,09 810,130,13	\$450,251.03 29,000.07 19,556.80 1,294.63 6,270.55 212,727.90 1,865.75 4,773.50 6,1186.71 42,298.59 22,647.49 497.866.55 40,531.74	\$13,023,397.88 40,981.63 1,700.145.22 776,345.30 365.962.44 745.325.00 6,437.341.70 429.812.23 602.816.52 2,202.266.6.2 2,202.266.6.2 1,715.635.23 6,037.027.44 21,362.231.84	\$6.866,506,03 200,265,36 1,004,825,91 409,944,94 221,032,75 427,411,23 3,625,863,33 285,661,82 314,162,38 175,036,71 1,932,546,40 4,985,778,12 6,181,552,92 835,110,52	\$3,323,479,41 18,970,74 18,892,97 197,817,55 73,118,50 190,569,24 1,865,590,67 91,649,45 172,062,64 49,854,78 642,155,83 1,835,946,84 2,971,075,27 284,789,96	\$1,603,443,28 \$1,96.01 (red) \$2,961,77 86,251.92 27,074.96 1,118.681,29 12,993,92 23,429.72 332,265.03 66,009.22 187,725.66 (red) 429,396,33	\$1,467,751,02 \$1,467,751,03 \$1,105,97 \$2,801,92 \$3,137,87 \$3,137,87 \$3,137,87 \$3,137,87 \$4,662,92 \$27,946,18 \$1,768,51 \$3,334,22 \$187,725,66 \$26,138,33
TOTALS	\$54,590,279.29	\$34,340,239.83	\$17,739,205.04	\$1,604,058.43	\$50,485,309.18	\$27.859.882.62	\$12,435,268.48	\$3.956,154.22	53,138,582,38

#### SUMMARY OF U.S. AIR TRANSPORT OPERATIONS FOR DECEMBER

(Compiled and Mileage Costs Computed from CAA Reports a)

ı		Pass.	Rev. Pass.	Avail. Seat	Factor	Revenues	LbMiles	LbMiles	Revenue	Operating Revenue	Operating Expenses	Cost per b	(Before Inc.	Total
ı	American Boston-Maine	53,093	20,672,154	30.693.397	72.88%	\$1,096,586.95 11,437.38	177,167,478 367,239	453,306,261	\$337,326.03	\$1,505,817.25	\$1,402,144.15	3.71	\$174.340.07	\$9.897.841.62
	Braniff C. & S.	6.234	2.003.535 922.362	3,140,152	63.80%	93,175,83 42,265,19	11.694.905	50.498.435	68,998.30	167.235.71	171,497.49	.49	3.221.74 (red) 3.798.38 (red)	344.545.07 1.524.186.37
	Continental Deita	3,178	274,411 658,749	687,600	45.13%	12,127.53 38,612.77	439,446 2,802,828	4.866,417	30,592.80	43,004.11 78,281.59	39,519.08	.38	2.317.82	609,104.25 403,366.13
	Inland	25,545	11,583,339	803,900	\$6.419a	623,174.70 7,782.17	76.502,152	216,617,372	26,711.16	34.611.67	565,904.17	.49	251.142.45	324,530.66 5,107,658.69
	Marquette	2.143	293,327 30,554	450,276 97,944	31.20%	1,628.13	1,636,614	419,660	3,738.00	37,190.26 1,689.32	34,618.02	1.06	5.157.60	\$43,456.30
ı	National	1,538	396,516 283,302	1.061.250 715.434	38.90%	16,847.51	1,257,874	6,526,569 3,606,743	40.160.30	87,855.31 34,998.79	\$3,969.03	.49	3.523.83 5.787.14	55,757.40 526,366.32
	Penn-Central	8,744	3,119,896 1,834,730	7,762,530	59.68%	120,631.67	21,472,110	113.328,980	147.355.41	275,375.05 167,851.26	270,134.22	.56	4,451.7G	2.421,974.23
ı	United	19,937	9,516,357	18.828,417 20.846,047	50.54%	494.232.07 612.575.60	86,203,669	310,501,311	228,626.98 355,103.49	766.966.86	746,799.32	.62	4.449.71	6,861,545,37
	western Air	2,768	983.087	2,220,687	44.27%	46,901.21	14,845,040	44.450.998	70.770.10	123,905.09	113,411.00	.52	10.525.92 (red)	1 153 249 90

A All monthly reports to the CAA are subject to revision and year-end adjustment.

B Total operating expenses divided by total plane miles; computed to the nearest half-cent.

#### Curtiss-Wright-Atlas Corp. Merger Adds \$36,500,000 Assets to C-W in Unique Deal With Floyd Odlum

IN ONE of the biggest surprise fi-nancial moves the industry has seen in some years, the boards of directors of the Curtiss-Wright Corporation and Atlas Corporation announced March 19 an agreement in principle to a merger of the two companies. All knowledge of the deal was closely held within the two boards until the time for announcement.

By the merger Floyd B. Odlum, who has been a director of Curtiss-Wright and interested financially in a few other aeronautical concerns, is thrust into one of the industry's dominant positions. Well known for his financial acumen in Wall Street, Odlum has long evinced an interest in aviation. (Mrs. Odlum is the former Jacqueline Cochran, well

known flyer in her own right.) The companies expect to submit the proposal to merge to the stockholders of the two companies within a few weeks. It is the first time that an investment trust such as Atlas Corp. has merged with an industrial concern, and represents a new means of provid-ing capital for an industrial corporation. The merger is one of the largest fi-

There will be no change in the management of Curtiss-Wright Corporation.

In general the plan proposes to transfer Atlas Corp.'s \$36,500,000 general market securities to Curtiss-Wright, in exchange for its stock, and to vest the \$25,000,000 special investment of Atlas in a new company to be known as Special Situations. At the conclusion of the transactions, the Atlas Common stockholders will own in part Curtiss. Wright Common shares ob-Curtiss-Wright Common shares tained in the merger and in part Common shares of this new separate corporation.

At the same time the non-manufacturing real estate of Curtiss-Wright Company, consisting for the most part of land acquired for airport purposes and having a present estimated value in the opinion of Curtiss-Wright management upwards of \$5,000,000, will be vested in a separate corporation, and all the shares of this corporation will be owned on a pro-rata basis by the A stock and the Common Stock of Curtiss-Wright Corp.

"Each holder of Common Stock of Cur-tiss-Wright will continue to hold his present shares but, as stated above, will also receive his pro rata of the stock of the airports company," the joint announcement said.

"Each holder of one share of Common Stock of Atlas Corp. will receive 65/100 of a share of Curtiss-Wright Common Stock, plus his pro rata portion of the stock of the 'Special Situations' Company which company concurrently with the merger probably will assume the name of the Atlas Corporation.

#### Atlas Exchange

"Each holder of one share of the 6% preferred stock of Atlas Corp., which has a par value of \$50, will get one share of \$50 par value Cumulative 5% Preferred Stock of Curtiss-Wright, plus one quarter of a share of common stock of Curtiss-Wright.

Curtiss-Wright.

"Generally this new preferred will have the same characteristics as the present 6% Preferred of Atlas, except for the reduced dividend rate and the fact that during the first two years it will be redeemable at a price ranging from \$50 per share and accrued to \$55 per share and accrued to accrued, instead of \$55 per share and accrued as in the case of the present 6% Preferred Stock.

"Each holder of one share of A Stock of Curtiss-Wright will be given the op-tion of receiving either 1/4 of a share of

new 5% Preferred Stock plus 1.8 shares of Common Stock, or, in the alternative, 1/2 of a share of the new 5% Preferred Stock plus 4/5 of a share of Common In either event such holder also gets his pro rata of the stock of the airport company.

"The perpetual option warrants of Atlas Corp. will be assumed by Curtiss-Wright but, at the holder's option. will receive five-year rights to buy a similar amount of stock of Curtiss-Wright, at prices ranging from approximately \$12.50 to \$14.50 per share.
"The stockholders will also be asked to

authorize and to permit the directors to make available to operating personnel up to 600,000 additional warrants instead of cash profit sharing in whole or

#### Increases Capital

"As a result of the merger Curtisa-Wright increases its capital by approximately \$36,500,000. As part of the plan, the new 'Special Situations' Company will for one year from date of merger, if requested by Curtisa-Wright, supervise the investments of so much as Curtisa-Wright indicates of this \$36,000,000. Curtiss-Wright indicates of this \$36, 500,000 of new liquid capital on a basis whereby the new 'Special Situations' Company will in turn guarantee such principal and 5% thereon.

"It is believed that the approximately

\$36,500,000 of cash or equivalent thus placed in the treasury of Curtiss-Wright will enable that company immensely to strengthen its position in the aviation industry, whether considered from the standpoint of continued war time operations or peacetime readjustments an scope of operations, and consequent immediate or eventual profits. Also, substantial corporate economics and savings are thought possible as a result of the

"In addition to obtaining new funds, the merger completely eliminates from the capital structure of Curtiss-Wright the A stock, which elimination the dire tors of Curtiss-Wright consider desir-

"Even on the basis of 1939 earnings plus income from the new cash, divid-ends on the new Preferred Stock will be earned more than three times. With be earned more than three times. With all of the working capital on hand that has been provided by the proposed mer-ger, need for capital will at least not be a limitation on dividends that could otherwise be properly declared as it has been at times in the past."

In a separate statement, Mr. Odlum said the negotiations for merger of the two companies "were initiated about three weeks ago by me and have since been continually active. While a merger of an industrial company with an investment company is unique in the history of finance, it is entirely logical and, in this instance, mutually advan-tageous. For Curtiss-Wright it is a new method of finance coupled with effective way of improving the capital structure.

Prominent in the negotiations were George N. Armsby, chairman of the board, and Guy W. Vaughan, president, of the Curtiss-Wright Corp.

#### Col. Stackpole Elected

Lieut. Col. Albert Hummel Stackpole, editor-in-chief of The Harrisburg Tele graph, Harrisburg, Pa., has been elected a member of the board of directors of Kellett Autogiro Corp., Philadelphia, it has been announced by Roderick G. Kellett, executive vice-president. Col. Stackpole is Commanding Officer of the 166th Field Artillery, Pennsylvania National Guard, and has long been connected with sportsman flying activi-ties. He is vice president of Radio Station WHP, Harrisburg; The Tele-graph Press, Inc., and American Aviation Associates. Inc.

## **Financial Reports**

For Calendar 1939 Unless Otherwise Specified

BREEZE CORPORATIONS, INC.

BREEZE CORPORATIONS, INC.—Consolidated net profit \$177,126 after charges (55c each on 323,023 \$1 common shares) against 1938 unconsolidated profit of \$135,367 (42c each on 320,523 shares).

\*\*DOUGLAS\*\* AIRCRAFT\*\* CO., INC.—Net income for year ended Nov. 30 \$2,884,197, (against previous year's \$2,147,392) or \$4.81 each on approximately 600,000 no par capital shares. Sales were \$27,886,-857, more than half representing orders for the U. S. government and \$3,916,139 for foreign military planes. Backleg on Mar. \$ reached \$97,287,720, including 33 of the 40 contemplated DC-48; and 60 DC-28. About \$19,000,000 and 60 DC-28. Experimental evelopment experiment of 17,000 employes are employed. A mid-summer maximum of 17,000 employes are expected, drawing wages at the rate of \$28,000,000 a year. Experimental development experimental and development experimental and development experimental and development write-offs deducted from income in 1939 were \$1,910,671.

\*\*A cash dividend of \$3 per share on 600-000 shares was net Nov. 30.

ducted from Income in 1939 were \$1,-910.671.

A cash dividend of \$3 per share on 600-000 shares was paid Nov. 20.

Nov. 30 balance sheet shows assets of \$24,583,769, against \$13,947,346 a year previous, Current assets were \$19,684,211, against \$8,787,337. Current liabilities of \$10,627,731 (accounts payable \$4,481,229; contract advances in excess of expenditures \$5,842,438; provision for Federal income taxes \$694,064) compared with \$21,29,332. Capital surplus \$3,983,441; earned surplus \$3,843,425.

Net sales of \$27,866,657 compared with \$28,347,474 in 1938. Gross profit was \$6,784,091 in 1939, and \$5,268,302 in 1938. Operating profit of \$5,382,008 for 1939 compared with \$4,086,193.

IRVING AIR CHUTE CO., INC.—Consolidated net income \$381,829 after charges, including deduction of \$77,152 representing foreign exchange conversion, or \$1,93 each on 197,500 shares of capital stock, against 1938 profit of \$361,-177 after deduction of \$37,144 for foreign exchange conversion, equal to \$1,83 a share.

CONSOLIDATED AIRCRAFT CORP.—

exchange conversion, equal to \$1.83 a share.

CONSOLIDATED AIRCRAFT CORP.—

Net profit \$1,104,327 (\$1.79 each on 576,160 \$1-par common shares after dividend requirements of \$3 a share on preferred) against 1938 profit of \$1,535,110. Products valued at \$3,603,240 were delivered and billed, new orders of \$42,948,053 were received, and backlog at Dec. 31 was \$42,141,694, and at Mar. 6 \$49,000,000. Deliveries were retarded by development and tooling. About \$2,000,000 is being spent on plant additions. To avoid issuance of new stock, directors have decided against declaring a dividend on common. Company is booked through midsummer of 1941; payroll is \$4300, with 3 shifts.

"Since organization in 1923, we have

3 shifts.

"Since organization in 1923, we have constructed more than 3 times as many airplanes with a wing span of 100-ft or over as all other American airplane manufacturers combined, and are the largest builders of flying boats in the world."

largest builders of flying boats in the world."

Dec. 31 balance sheet shows assets \$1,607,619 still (cash \$3,080,268); investment in Field (cash \$3,080,268); in Field (cas

BORING AIRPLANE CO.—Net loss of \$3,284,073, most of which was due to excess of cost over sales price of development and manufacture of flying boats and Stratoliners, Report supplements statement for Jan. 1-Sept. 30 period which showed loss of \$2.506,106. Loss from Sept. 30 to Dec. 31 was principally from Army's Flying Fortresses (\$232,774) and increase in estimated cost to complete the Stratoliners (\$358,580). During last quarter of 1939 and to

plete the Stratoliners (\$368,580). During last quarter of 1939 and to Mar. 1 company completed 75% of a \$9.928,895 Army order for Fortresses. with completion seen for April. All of the 8 Stratoliners (3 for Pan American; 5 for TWA) will be delivered by July 1. Backlog at Dec. 31 of \$25,002.574 compared with \$14.894,918 year previous and \$14.112.298 at Dec. 31, 1938. Backlog of Boeing Aircraft of Canada, Ltd. is \$900,000 representing uncompleted portion of

contract from Dominion government as recently announced, amendment a parent's charter allows increase in authorized capital from 800.000 shares to 1,250,000. At Mar. I company was indebted in amount of \$4,740,000, to Pacific National Bank of Seattle, and Reconstruction Finance Corporation has agree to participate in the loan, which is no to exceed an aggregate of \$5,500.000. Balance sheet for Dec. 31 shows assets \$2,253,735; current assets \$6,876,574; investments \$41,435; fixed assets \$2,255,735; current assets \$6,876,574; investments \$41,435; fixed assets \$2,255,969; deferred charges \$39,755. Current labilities were \$5,404,708; capital stock (authorized \$00,000 shares) issued and outstanding 720,8604, \$35,750, current assets \$6,876,574; investments \$41,435; fixed assets \$2,255, 609, 3004,303); to be issued for shares of capital stock of United Aircraft and Transport Corp. upon presentation for exchange, 109714, shares, (\$5,486). Padin surplus \$917,203. Earned surplus (deficit) since Sept. 30, 1939, \$677,966. Costs and development on flying boat in excess of sales price were shown a \$72,383, Excess of costs plus estimated cost to complete over sales price of Stratoliners \$1,945,565. Engineering research expenses are set at \$81,200. Selling, general and administrative expenses were \$13,487,89. Gross sales were \$11,846,893. Operating loss was \$3,194,834. KELLETT AUTOGIRO CORP. — Net

893. Operating loss was \$3.194.8.
KELLETT AUTOGIRO CORP.

KELLETT AUTOGIRO CORP. — Net loss \$9,569 for 14 months from Nov. 1. 1938, to Dec. 31, 1939. against \$15,027 loss for 12 months to Nov. 1. 1938. Closing of fiscal year was changed from Oct 31 to Dec. 31. Sales of \$434.197 compared with \$338,711. Two autogiros were sold Major portion of 1939 orders were for subcontract manufacturing for Glenn I. Martin, Republic and Curtiss Aeroplane Backlog Mar. 15 was \$405,000.

LOCKHEED AIRCRAFT CORP.— Net income of \$3,132,918 (\$4.04 each on 75.000 common shares outstanding Dec. 31)

LOCKHEED AIRCRAFT CORP.—Net income of \$3,132,918 (\$4.04 each on 775.000 common shares outstanding Dec. 31) represents 609% gain over the \$442.11) profit in 1938, and was arrived at after deducting \$874,332 for Federal taxes and \$1,298.346 for amortization of designs and depreciation of plant and equipment. Sales were \$35,308.149. up 244° over \$10,274,503 in 1938. Dec. 31 balance sheet shows current assets \$9,548,014 including \$1.721,378 cash: total current liabilities were \$6,659,601. The Mar. 1 backlog of \$57,350,865 included \$33,748,80 foreign military, \$7,513,492 domestic military, \$10,088,682 commercial-private Payroll is 6437.

Total of 356 planes were built (29 reconnaissance bombers, 12 [1ght patrol bombers, 54 commercial) against 91 in 1938. In March, 1939, sale of 112,454 shares provided \$3,148,712, sufficient to finance the production program. On Jan. 22, 1940, sale of 225,000 shares netted the company \$5,73,750. enough to en.

shares provided \$3,148,712, sufficient to finance the production program. On Jan. 22, 1940, sale of 225,000 shares netted the company \$5,737,500, enough to enable the company to develop its lone range program and "handle all orders mand hand or any in immediate prospect" (An earlier report appeared in AMERICAN AVIATION Fortnightly Financial Review Feb. 1).

#### OTHER FINANCIAL NEWS

Stockholders of American Expert Lines, Inc. (steamship operator and parent of American Export Airlines, Inc. (steamship operator of American Export Airlines, Inc. 10,000 shares of \$100-pax 5%, cumulative preferred to enable further investment in the afriline. Parent now owns 38,000 of the 480,000 airline shares, having distributed 144,000 chares it originally held to stockholders last year. The steamship company has invested \$500,000 on airline stock, which has been decreased on former's books to \$350,000 by the distribution, and has advanced the air carrier \$110,000 additional. Should CAA grania certificate of convenience and necestry for trans-Atlantic operation. as is expected in Washington, \$3,500,000 additional capital will be required in the coming year.
Public offering of 50,000 no par common shares of Candian Colonial Airways. Ltd. (Canada) is expected to net proceeds of approximately \$200,000. Price to public was \$5. Underwriters were Savard, Hodgson & Co., Ltd.; Wood, Cundy & Co., Ltd.; and Greenshields & Co. Inc., Application of Ryan Aeronautical Ca.

Co. Inc.
Application of Rvan Aeronautical Co.
to list 125,000 additional shares of its
\$1-par common stock has been approved
by the Los Angeles Stock Exchange.

#### Lt. George Moffett Joins Intercontinent

Joins Intercontinent
Lieut. George H. Moffett, U. S. N., retired. Joined The Intercontinent Corporation, 30 Rockefeller Center. on
March I. He has served ten years in the
Navy, eight of which were as Naval
Aviator. From 1933 to 1935 he was on
duty in Washington as naval aide to Admiral E. J. King, then Chief of the
Bureau of Aeronautics. Bureau of Aeronautics.

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#### Fortnightly Financial Review

#### **Braniff, Continental Air Lines** & Harvill Issues to Net \$1,225,000

Notification has been received by the Securities & Exchange Commission in Washington of three impending stock by two airlines and an accessories manufacturer representing pro-ceeds to the respective companies of almost \$1,225,000.

Broniff Airways, Inc. filed a registra-tion statement for 150,000 shares, with proce is from the underwriter of about 5825,000 for the 100,000 shares pur-chased T. E. Braniff will receive entire sale price for the remaining 50,000

Continental Air Lines, Inc. will receive slightly less than \$100,000 from a private sale of 3,636 shares of its \$10-p r stock.

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Harvill Aircraft Die Casting Corp. 300,000 \$1-par common shares at \$300,000.

Details of registration and current reports filed in the fortnight ended Mar. 20 follow:

Braniff Airways, Inc.

The registration covers 150,000 \$2.50par shares, underwritten by F. Eberstadt & Co. Inc.. who will purchase
100,000 shares from the airline and 50,100 shares from T. E. Braniff, all at
\$25 a share within two weeks after
the expected effective date of Mar. 28.
Price to the public is not yet deter-

the expected effective date of Mar. 28. Price to the public is not yet determined.

On Mar. 21 each of the 75,000 outstanding \$10-par shares of Braniff Airays was changed to four \$2.50-par common shares. Increasing authorization to 400,000 shares.

Proceeds will be used (1) either to recemine thattel mortgage secured by 4 DC-3 planes. In principal amount \$400.-600, or to purchase 4 additional DC-3's under contract. and equipment and spare parts totaling \$525,000; (2) to bolster working capital. The 4 DC-3', ust delivered cost \$110,338 each, including Wright Cyclone G-102A engines 1100hp), and were financed by \$400,000 loan on note & chattel mortgage from Chase National Bank, company issuing 4 promissory notes (4'4') calling for monthly installments due July 1. 1940, the proposed of the proposed processes of the part of the proposed processes of the proposed processes of the processes of the processes of \$100,000. The proposed processes of \$100,000. The processes of \$100,000. The proposed processes of \$100,000. The processes of \$100,000. The proposed processes of \$100,000. The processe

Continental Air Lines, Inc.

Continental Air Lines, Inc. Letter of notification to SEC concerns proposed issue of 3636 shares of \$10-par common at offering price of \$27.50. for sale in California, Colorado. New York. Utah. Company personnel are understood to be taking the issue. Since proceeds are less than \$100.000, and a public sale is not intended, issuer is not required to file a prospectus or registration statement with the Commission. Proceeds are expected to be used for one or two new Lockheeds.

mission. Proceeds are expected to be used for one or two new Lockheeds.

Harvill Aircraft Die Casting Corp. Registration Mar. 15 of 300,000 \$1-par common shares, underwritten by Pistell. Wright & Co. Ltd., and Fox. Castera & Co., Los Angeles, will enable expenditures as follows: \$50,000 for sales promotion, expansion, development, advertising; \$100,000 for new plant; \$50,000 for working capital.

Underwriting agreement formerly held by Fox. Castera & Co. to purchase part or all of 300,000 shares of registrant' unissued stock at par has been essigned to Pistell, Wright & Co. Ltd. by agreement, both underwriters will share in net profits from public sale of up to 300,000 shares at initial offerage price of \$1.75.

Firm in Los Angeles, was organized in 1920 by H. L. Harvill, and was inforporated in 1936 as H. L. Harvill, Inc. Presen company was formed Feb. 28.

309. acquiring assets of precedessor a return for 100,000 shares ast year brought \$80,000 proceeds, used for werking capital. Products are sluminum, duraluminum, magnesium.

industries, as well as Harvill Hi-Precision die casting machines. At present experiments in berryllium copper alloy die-castings are underway.

H. L. Harvill is president; I. J. Boothe is vice-president; L. W. Johnson is secretary-treasurer. Dec. 31 balance sheet shows assets of \$234,169; current assets \$81,504; current liabilities \$27,141. Net income May 11 to Dec. 31. 1939. was \$29,710 after Federal income taxes.

CURRENT REPORTS

CURRENT REPORTS

Airplane Mig. & Supply Corp.—on
Mar. 11 paid to Bendix Aviation. Ltd..
\$130,000 for business & assets, except
cash and certain receivables, of two
Bendix divisions. Pacific Airmotive and
Airplane Parts & Supplies, and has
executed its promissory note for \$60,003.
a chattel mortgage, and assignment of
accounts in favor of Bendix. G.
Brashears & Co.. Los Angeles. on Mar.
11 purchased 56,345 of company's \$1par capital shares at \$1-each. which
will be offered the public at \$1.25.
Under provision for sale of 35,000 shares
at par to registrant's employes. Raiph
D. Lacoe. Jr., director, purchased 24,000
shares, representing 12% of the 199,800
shares outstanding Mar. 11.
Continental Motors Corp. on Feb. 15
had 3,000,000 \$1-par common shares outstanding, following exercise of option
over 6 months period by Van Aistyne.
Noel & Co. for 350,000 shares, with proceeds to manufacturer of \$1,250,580.
Republic Aviation Corp. on Mar. 15
called for redemption Apr. 5 of all outstanding shares of its convertible first
preferred Class A. at call price of \$24,
plus accrued dividends. Company
offered and sold 28,000 shares of the
issue in July, 1939. At Feb. 29 there
were 2578 Class A shares outstanding.
Lockheed Aircraft Corp. announces
aggregate net proceeds of \$5,737,500
from recent sale of 225,000 \$1-par capital shares to underwriters at \$25,50.
This sale raises outstanding shares to
1,000,000 on Feb. 28 company paid in
full seven promissory notes maturing
in 1941, indorsed by Northwest Airlines.
Inc. and payable to Chase National
Bank in total amount of \$444,320.

DIVIDENDS

Air Associates, Inc., quarrerly, \$1.75 a.

#### DIVIDENDS

Air Associates, Inc., quarterly, \$1.75 a share on 1st preferred (\$7 cumulative and convertible) payable Apr. 1 of record Mar. 18; quarterly, 12½c on common, payable Mar. 25 of record Mar. 18.

Curtiss-Wright Corp. 50c on Class A. payable Mar. 30 of record Mar. 20. In 1939 payments on Class A were 50c each on July 15 & Oct. 15, and \$1 on Dec. 15.

#### Mfrs. Fight Freight Rate Rise Proposal

Engine and aircraft manufacturers, led by the Aeronautical Chamber of Com by the Aeronautical Chamber of Com-merce, have vigorously protested against a proposed increase of freight rates for aeronautical products. Representatives of the industry testified March 18 at a hearing in New York before the consolidated classification committee of rail carriers against the committee's special docket proposing changes in aircraft freight classifications. A second meeting at which west coast manufacturers were to be present was held in Chicago March

22.

The industry protested that for many years engines have been shipped under the old rates and there has been no material change in values. thus an increased rate now based on value would be theoretisent. It was shown that only be inconsistent. It was shown that only one claim has been entered by any of the three leading engine manufacturers in 14 years and that was for only \$540 therefore insurance liability is practictherefore insurance liability is practically negligible. The industry also has commitments on planes and engines at certain fixed delivery prices until far into 1941 and these prices were determined by present shipping rates. The Aeronautical Chamber was given six weeks to prepare a brief.

If rates are increased some representa-tives of the industry predicted that it will be more economical for the industry to fly aircraft to designations or to resort more heavily to truck ship-

#### British Want Bombers, Flying Boats and Pursuits; Take Credit for "Teaching" U. S.

Great Britain needs long-range reconnaissance bombers, long-range flying boats for coastal command, and single seat pursuits, according to a recent issue of The Aeroplane, British aviation magazine.

"Many rumors have arisen recently about the types of airplanes and the numbers of them which may be ordered from the U. S. aircraft industry by the Allied Purchasing Commissions," the magazine said. "In the past the British Air Ministry has ordered one type of advanced trainer, the North American Harvard, and one civil transport con-verted for use as a reconnaissance bomber—the Lockheed Hudson. So far no military airplane has been ordered in any quantity for the Royal Air Force. There are two categories of air-

plane in which the Americans can most readily give us help. They are fast, long-range reconnaissance bombers of medium size, and long-range flying boats for the Coastal Command. In both categories we have military air-planes which, as airplanes, are as good as anything in the world, and as fighting machines are certainly the best the world because of our highly-de-veloped power-operated multi-gun tur-But reserves are important, and in the event of large-scale bombing of aircraft factories in this country re-inforcements to supplement Dominion production may become essential.

"For that reason single-seat fighters may be bought in America as well. Several good single-seaters have been built in the U. S. A. lately with speeds control to be several good single-seaters. reputed to be around 400 mph. But none of them are such formidable fighting airplanes as our Hawker Hurricanes and Supermarine Spitfires in

"By the end of the war we may have taught the Americans how to turn good airplanes into good fighting machines. In return we may have to ask to be taught how to turn good fighting machines into good transport airplanes.

#### Canada Orders 900 Trainers of 3 Types

Orders for 904 trainer planes have been awarded to Canadian manufacturing concerns by the government in connec-tion with the British Commonwealth Air Training Plan.

Fleet Aircraft. Ltd., of Fort Erie, Ont... has received a \$2.000,000 contract for 404 trainers and a further order for spare parts equivalent to 100 more planes. Orders for 500 other trainers costing

Orders for 500 other trainers costing \$7.273.672 went to Noorduyn Aviation Limited. of Montreal, which holds the Canadian licenses from North American Aviation. Inc. for the Harvard trainer, a two-seater single-engined all-metal low-wing monoplane capable of a speed of 200 mph.; and to the deHavilland Com-pany of Toronto for deHavilland Tiger

Moths.

The Noorduyn company is also building a number of "Flying Classrooms" for the Royal Canadian Air Force. These planes have accomodations for eight students and were selected for radio training of student pilots.

Exporter Leases Space

China Airmotive Company Federal Inc., U.S.A., an organization engaged in export of aircraft and equipment to China, has leased office space at 444 Madison Ave., New York City.

# Northwest Airlines, Inc.

Common Shares

Price at the Market

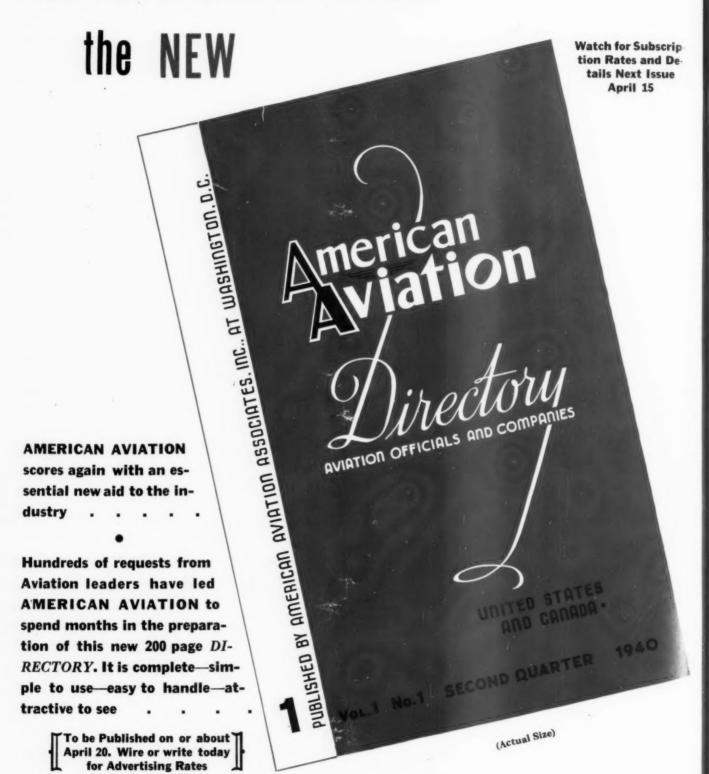
A prospectus describing the above shares may be obtained from the undersigned

#### THE MILWAUKEE COMPANY

135 WEST WELLS STREET

MILWAUKEE . WISCONSIN

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